GenCore version 5.1.6 Copyright (c) 1993 - 2005 Compugen Ltd.

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Search Histor
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Perfect score:
Sequence:
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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1: /cgn2_6/ptodata/1/iaa/5_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/6_COMB.pep:*

3: /cgn2_6/ptodata/1/iaa/FCTUS_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/RE_COMB.pep:*

5: /cgn2_6/ptodata/1/iaa/RE_COMB.pep:*
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US-08-460-907B-4
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2 US-08-461-384B-4
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2 US-08-463-092B-2
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US-08-463-179A-2
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1228	1228	1228	1228	1228	1228	1228	1581	1581	1261	1261	1261	1261	1261	1261	1261	1261	1261
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US-09-657-279-537	US-09-651-236-537	US-09-759-143-537	US-09-679-426-537	US-09-685-166A-537	US-09-636-215-537	US-09-439-313-537	US-09-208-716-3	US-08-726-320-3	US-10-012-896-1009	US-10-012-896-538	US-09-657-279-538	US-09-651-236-538	US-09-759-143-538	US-09-679-426-538	US-09-685-166A-538	US-09-636-215-538	US-09-439-313-538
Sequence 537, App	Sequence 537, App	Sequence 537, App	Sequence 3, Appli	Sequence 3, Appli	Sequence 1009, Ap	Sequence 538, App	Sequence 538, App	Sequence 538, App									

## ALIGNMENTS

N - 40 M - 71 N -	428 428 428	COUNTRY: CHARLO COUNTRY: CANADA ZIP: K7L 3N6 ZIP: K7L 3N6 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: ASCII text CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/463,092B FILING DATE: 05-JUN-1995 CLASSIFICATION: 435 PRIOR APPLICATION DATA: APPLICATION NUMBER: 07/966,923 FILING DATE: 27-007-1992	
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Best Local S
Matches 1531
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LENGTH: 1531 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
5-08-463-092B-4
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                                                       AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
                                                                                                                                                  MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT
                                                                                                                                                                                  KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP
                                                                                                                                                                                                                 LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL
                                                                                              SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGGKQRVSLAR
                                                                                                                             LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
                                                                                                                                                                                                                                                                                       WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
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                                                                                                                                                                                                                                                                                                                                                                                     LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
                                 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQBQDAEENGVTGVSGPGKEAKQMENGM
                                                                                      SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
                                                                                                                     LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
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                                                                           ARALLEKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500
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DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
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US-08-462-109A-4
US-08-462-109A-4
Patent No. 5882875
Patent No. 5882875
Patent No. 5882875
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING
TITLE OF INVENTION: MULTIDRUG RESISTANT TUWOR CELLS
TUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
COMPUTER: ASCII text
CURRENT APPLICATION NUMBER: US/08/462,109A
PILING DATE:
CLASSIFICATION DATA:
APPLICATION NUMBER: US/08/462,109A
FILING DATE:
CLASSIFICATION DATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340

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APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DeConti, Giulio A. Jr.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: PQI-002CP4
TELECOMMUNICATION: THOORMATION:
TELEPHONE: (617) 227-7400
TELEPHONE: (617) 227-740
TELEPAX: (617) 227-7941
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
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Best Local Similarity
Matches 1531; Conserv
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                                                                                                                                 KSAYLSAVGTETWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600
                                           LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
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    SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR 780
                                                                                MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT
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                           LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
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                                                                         Sequence 4, Application US/08460907B
Patent No. 5891724
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Deeley, Roger G.
APPLICANT: Cole, Susan P.C.
TITLE OF INVENTION: METHODS FOR CONFERRING MULTIDRUG
TITLE OF INVENTION: RESISTANCE ON A CELL
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
STREET: Queen's CITY: Kingston STATE: Ontario COUNTRY: CANADA ZIP: K7L 3N6
                                                   ADDRESSEE: PARTEQ RESEARCH STREET: Queen's University
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                   DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
                                                                                          ARALLEKTKI LVLDEATAAVDLETDDLIOSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL
                                                                                                                                                                           SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL
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                                                                         ARALLEKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL
                                                                                                                                                  SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL
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& DEVELOPMENT INNOVATIONS at Kingston

301 IVKSPQKEWNPSLFKVLYKTEGPYPLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 3 301 IVKSPQKEWNPSLFKVLYKTEGPYPLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 3 361 WQCYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 4 361 WQCYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 4 361 WQCYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 4 421 GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVN 4	241 LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 3	181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 2	121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIWTALKEDAQVDLERDITFYVYFS 18	61 DRGYIQMTPLNKTKTALGELLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA 1	LRGECSADGSDELMDWNVTWNTSNDETKCFONTVLVWVPCFYLWACFPEYFLYLSRH 60	Query Match Query Match Query Match Polity 100.0%; Score 7860; DB 1; Length 1531; Best Local Similarity 100.0%; Pred. No. 0; Best Local Similarity 100.0%;	TYPE: amino acid TOPOLOGY: linear  MOLECULE TYPE: protein US-08-460-9078-4	; TELEPHONE: (613) 545-633; TELEPACHE: (613) 545-683; TIPORMATION FOR SEQ ID NO: 4: SEQUENCE CHARACTERISTICS:	; NAME: SCEEG, CATOL MIETHICK: ; REGISTRATION NUMBER: 39,539 ; REFERENCE/DOCKET NUMBER: Q1551 ; TELECOMMUNICATION INFORMATION:	; AFELICATION NUMBER: 00/40//20/ ; FILING DATE: 20-MAR-1995 ; CLASSIFICATION: 424 ; ATTORNEY/AGENT INFORMATION:	APPLICATION NUMBER: 08/141, FILING DATE: 26-0CT-1993 CLASSIFICATION: 424 PRIOR APPLICATION DATA: ANDITICATION UNIVERSED ANDITICATION OF APPLICATION DATA	APPLICATION NUMBER: 08/029,3 FILING DATE: 8-MAR-1993 CLASSIFICATION: 424 PRIOR APPLICATION DATA:	FILING DATE: 27-027-1992 FILING DATE: 27-027-1992 CLASSIFICATION: 424 PRIOR APPLICATION DATA:	FILING DATE: 05-700/70 FILING DATE: 05-701/1995 CLASSIFICATION: 424 PRIOR APPLICATION DATA:	B	8
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1381 SGLLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECABGGENLSVGQQQLVCL 1440  1441 ARALLEKTKILVLDEATAAVDLETDDLIOSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500	1321 EKVGIVGRTGAGKSSLTLGLFRINGSAGGEIILDGINIAKIGLEDLRFKITIIPQDPVLF 1380	VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 	1201 VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLAWLVRMSSEMETNIVA 1260 	1141 KRLESYSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200 	1081 DTVDSMIPEVIKMEMGSLENVIGACIVILLATPIAAIIIPPLGLIYEFVQREYVASSRQL 1140 	1021 ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL 1080 	961 SVYWDYMKAIGLFISFLSIFLFWCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG 1020 	901 LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL 960 	841 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM 900 	781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840 	721 SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR 780 	661 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND 720 	601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660	541 KSAYLSAVGTETWVCTPELVALCTEAVYVTIDENNILDAQTAFVSLALENILREPLNILP 600	481 AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK 540 	

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US-08-463-179A-4
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GENERAL INFORMATION:
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Best Local (
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APPLICATION NUMBER: 07/966,923

FILING DATE: 27-0CT-1992

APPLICATION NUMBER: 08/029,340

FILING DATE: 8-MAR-1993

APPLICATION NUMBER: 08/141,893

FILING DATE: 26-0CT-1993

APPLICATION NUMBER: 08/407,207

FILING DATE: 27-0MAR-1995

APPLICATION NUMBER: 08/407,207

FILING DATE: 20-MAR-1995

ATTORNEY/AGENT INFORMATION:

NAME: DeConti, Giulio A. Jr.

REGISTRATION NUMBER: 31,503

REFERENCE/DOCKET NUMBER: 901-002CP8

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (617) 227-594
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/463,179.
FILING DATE:
CLASSIFICATION: 536
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APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING
NUMBER OF SEQUENCES: 6
CORRESSPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: protein
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CITY: Boston
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TYPE: Floppy disk
    LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 300
                                                    LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
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Query Match Best Local Similarity 100.0%; Pred. No. 0; Best Local Similarity 100.0%; Pred. No. 0; Matches 1531; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH 60	FOR SEQ ID NO: 4: HARACTERISTICS: 1531 amino acids mino acid : linear YPE: protein	FILING DATE: 20-MAR-195  FILING DATE: 20-MAR-195  ATTORNEY/AGENT INFORMATION:  NAME: Steeg, Carol Miernicki  REGISTRATION NUMBER: 39,539  REFERENCE/DOCKET NUMBER: Q1547  TELECOMMUNICATION INFORMATION:  TELEPHONE: (613) 545-2342  TELEPHONE: (613) 545-2342	PRIOR APPLICATION DATA: APPLICATION NUMBER: 07/966,923 FILING DATE: 27-0CT-1992 APPLICATION NUMBER: 08/029,340 FILING DATE: 8-MAR-1993 APPLICATION NUMBER: 08/141,893 FILING DATE: 26-0CT-1993	COMPUTER READABLE FORM:  COMPUTER READABLE FORM:  MEDLUM TYPE: Floppy disk  COMPUTER: IBM PC compatible  COMPUTER: IBM PC compatible  OPERATING SYSTEM: PC-DOS/MS-DOS  SOFTWARE: ASCII text  CURRENT APPLICATION DATA:  APPLICATION NUMBER: US/08/461,384B  FILING DATE: 05-17M-95  FILING DATE: 05-17M-95	HITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS NUMBER OF SEQUENCES: 10 CORRESPONDENCE ADDRESS: ADDRESSE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS STREET: Queen's University at Kingston CITY: Kingston STATE: Ontario COUNTRY: CANADA	RESULT 5 US-08-461-384B-4 ; Sequence 4, Application US/08461384B ; Patent No. 6025473 ; PATELICANT: Cole, Susan P.C. ; APPLICANT: Deeley, Reger G.	1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531 	1441 ARALLRKTKITUTLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL	Db 1321 EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITTIPQDPVLF 1380  Qy 1381 SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALDDKLDHECAEGGENLSVGORQLVCL 1440
D Q D Q	O B O B 4	?	Db Qy Db	S B S B S	D Q D Q	D Q D Q	Qy Ob	y V	Db Oy
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APPLICANT: FOX Chase Cancer Center
APPLICANT: Kruh, Gary D.
APPLICANT: Lee, Kun
APPLICANT: Lee, Kun
APPLICANT: Belinsky, Martin G.
APPLICANT: Belinsky, Martin G.
TITLE OF INVENTION: MEP-Related ABC Transporter Enc
TITLE OF INVENTION: MEP-Related ABC Transporter Enc
CURRENT PEPLICATION NUMBER: US/09/647,140B
CURRENT FILING DATE: 2001-05-21
PRIOR APPLICATION NUMBER: ECT/US99/06644
PRIOR APPLICATION NUMBER: 60/079,759
PRIOR FILING DATE: 1998-03-26
PRIOR FILING DATE: 1998-03-27
PRIOR FILING DATE: 1998-03-27
PRIOR FILING DATE: 1998-08-03
NUMBER OF SEG ID NOS: 33
SOFTWARE: FastSEQ for Windows Version 3.0
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ORGANISM: Homo Sapiens
-09-647-140B-19
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                                     TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS
                                                                                       DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA
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1 MALRGECSADGSDFLWDWNVTWNTSNPDET    MALRGECSADGSDFLWDWNVTWNTSNPDET	HARACTERISTICS: 1531 amino acids mino acid : linear YPE: protein 79.3%; Score 7849; DB 1 milarity 99.9%; Pred. No. 0;	APPLICATION NUMBER: 07/966,923; 08/029,340 ; FILING DATE: 27-0CT-1992; 8-MAR-1993 ; ATTORNEY, AGENT INFORMATION: ; NAME: DeConti, Giulio A. Jr. ; REGISTRATION NUMBER: 31,503 ; REFERENCE/DOCKET NUMBER: PQI-002 ; FILECOMMUNICATION INFORMATION: ; TELEPHONE: (617) 227-7400 ; TELEPHONE: (617) 227-7400 ; TELEPAX: (617) 227-5149 ; INFORMATION SEC ID NO. 2.	MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/141,893 FILING DATE: CLASSIFICATION: 424 PRIOR APPLICATION DATA:	510	3-2 , Application US/08141893 , 5489519 (NFORMATION: Susan P.C. NT: Cole, Susan P.C. NT: Deeley, Roger G. Privention: MULTIDRUG RESISTANCI	Oy 1321 EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF 1380
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Sequence 2, Application US/08463092E
Patent No. 5766880
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: ISOLATED NUC
TITLE OF INVENTION: MULTIDRUG RE
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
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US-08-463-092B-2
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                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
CLASSIFICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REPERENCE/DOCKET NUMBER: 01546
                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: CANADA
ZIP: K7L 3N6
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
APPLICATION NUMBER: US,
FILING DATE: 05-JUN-19;
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
CLASSIFICATION: 435
 TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-2342
TELEFAX: (613) 545-6853
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CITY: K
STATE:
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Queen's University
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; SEQUENCE CHARACTERISTICS:
; LENGTH: 1531 amino acids
; TYPE: amino acid
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-463-092B-2
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                                                  MSGGKI SEMGSYQELLARDGAFAEFLRTYAS TEQEQDAEENGVTGVSGPGKEAKQMENGM
                                                                                                                 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
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                               MSGGKI SEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM
                                                                                                                                                                          SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR 780
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                                                                                            AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
                                                                                                                                                          SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
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RESULT 9
US-08-462-109A-2
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Patent No. 5882875
GENERAL INFORMATION:
APPLICATION NUMBER: US/08/
FILING DATE:
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966
FILING DATE: 27-0CT-1992
                                                                                                                                                                                                                                                   APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING
TITLE OF INVENTION: MULTIDRUG RESISTANT TUMOR CELLS
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSE: LAHIVE & COCKFIELD
                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
                                                                                                                                                                                         STREET: 60 St.
CITY: Boston
STATE: Massacl
COUNTRY: USA
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                  07/966,923
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FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DeConti, Giulio A. Jr.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: PQI-00
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-5941
TELEFAX: (617) 227-5941
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SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
TYPE: amino acid
TOPOLOGY: linear
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                                 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
                                                                                         MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT
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                   LNGITFSIPEGALVÁVVGQVGCGKLSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
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                                                                                                                                    KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP
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Pred. No. 0;
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RESULT 10
US-08-460-907B-2
(US-08-460-907B-2)
Sequence 2, Application US/08460907B
Patent No. 5891724

PATENT NO. 5891724

APPLICANT: Deeley, Roger G.
APPLICANT: Cole, Susan P.C.

APPLICANT: Cole, Susan P.C.

TITLE OF INVENTION: METHODS FOR CO
TITLE OF INVENTION: RESISTANCE ON
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSEE: PARTEQ RESEARCH & DEV
CORRESPONDENCE ADDRESS:
STREET: Queen's
CITY: Kingston
STATE: Ontario
COUNTRY: CANADA
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                                              & DEVELOPMENT INNOVATIONS at Kingston
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TOPOLOGY: linear;
MOLECULE TYPE: prot
US-08-460-907B-2
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APPLICATION UNMBER: 08/141,893
FILING DATE: 26-OCT-1993
CLASSIFICATION: 424
PRIOR APPLICATION DATA: 08/407,207
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
FILING DATE: 20-MAR-1995
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Steeg, Carol Miernicki
NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: Q1551
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-2342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (613) 545-685
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: ASCII text
CURRENT APPLICATION DATA:
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APPLICATION NUMBER:
FILING DATE: 8-MAR-1:
CLASSIFICATION: 424
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APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
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Similarity 99.9%;
             LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
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Pred. No. 0;
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PRIOR APPLICATION NUMBER: 07/966,923

PILING DATE: 27-0CT-1992

APPLICATION NUMBER: 08/029,340

FILING DATE: 8-MAR-1993

APPLICATION NUMBER: 08/41,893

FILING DATE: 26-0CT-1993

FILING DATE: 20-MAR-995

FILING DATE: 20-MAR-995

APPLICATION NUMBER: 08/407,207

FILING DATE: 20-MAR-1995

ATTOORNEY/AGENT INFORMATION:

NAME: DECONTI, Giulio A. Jr.

REGISTRATION NUMBER: 31,503

REFERENCE/DOCKET NUMBER: 901-002CP8

TELECOMMUNICATION INFORMATION:

TELEPHONE: (617) 227-7400
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APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS
NUMBER OF SEQUENCES: 6
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
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ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suit
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APPLICATION NUMBER: US
FILING DATE:
CLASSIFICATION: 536
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CITY: Boston
STATE: Massac
COUNTRY: USA
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Local Similarity 99.9%;
nes 1529; Conservative
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                                                           VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1320
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US-08-461-384B-2
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US-08-461-384B-2
                                                                                                                 Query Match
Best Local Sim
Matches 1529;
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Patent No. 6025473
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MEDIUM TYPES Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION NUMBER: US/08/461,384B
FILING DATE: 05-UN-95
PRIOR APPLICATION UNMBER: 07/966,923
FILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
APPLICATION NUMBER: 08/407,207
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APPLICATION NUMBER: 08/407,207
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APPLICATION NUMBER: 09/407,207
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FILING DATE: 20-MAR-1995
APPLICATION NUMBER: 00/407,207
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APPLICATION NUMBER: 00/
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LENGTH: 1531 amino acids
TYPE: amino acid
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ADDRESSEE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS
STREET: Queen's University at Kingston
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APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: MULTIDRUG RESISTANCE
NUMBER OF SEQUENCES: 10
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CITY: Ki
STATE: O:
COUNTRY:
ZIP: K7L
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                                     TYPE: amino acid TOPOLOGY: linear
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DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
                                   DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
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US-08-407-207A-2

Sequence 2. Application US/08407207A

Patent No. 663621

APPLICANT: Deeley, Roger G.
APPLICANT: Deeley, Roger G.
APPLICANT: Cole, Susan P.C.

TITLE OF INVENTION: ANTHODIES TO A MULTIDRUG RESISTANCE PROTEIN

NUMBER OF SEQUENCES: 7

CORRESPONDENCE ADDRESS:

ADDRESSEE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS

STREET: Queen's University at Kingston

CITY: KIngston

COUNTRY: CANADA

ZIP: K71 3M6

COMPUTER READABLE FORM:
MEDIUM TYPE: Plogpy disk
COMPUTER READABLE FORM:
MEDIUM TYPE: LEM PC COMPATION

MEDIUM TYPE: US/08/407,207A

FILING DATE: 20-MAR-1995

CLASSIFICATION NUMBER: US/08/407,207A

FILING DATE: 27-0CT-1992

APPLICATION NUMBER: 08/029,340

FILING DATE: 27-0CT-1992

APPLICATION NUMBER: 08/129,340

FILING DATE: 27-0CT-1992

APPLICATION NUMBER: 08/129,340

FILING DATE: 26-0CT-1993

APPLICATION NUMBER: 08/129,340

FILING DATE: 26-0CT-1993

APPLICATION NUMBER: 08/141,893

APPLICATION NUMBER: 08/1512

TELEOMMUNICATION INFORMATION:

NAME: Steeg, Carol Micricki

REGISTRATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acid

TOPOLOGY: 11near

MUS-0014-207A-20

MUS-0014-207A-207A-20

MUS-0014-207A-207A-207

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Query Match
Best Local Similarity
Matches 1529; Conserv
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                              SVYMDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG 1020
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Pred. No. 0;
0; Mismatches
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US-08-463-092B-6
; Sequence 6, Application US/08463092B
; Patent No. 5766880
; GENERAL INFORMATION:
; APPLICANT: Cole, Susan P.C.
; APPLICANT: Deeley, Roger G.
; TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULES
; TITLE OF INVENTION: MILTIDRUG RESISTANCE PROTEINS
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                                                STREET: Queen's University at Kingston
CITY: Kingston
STATES: Ontario
STATES: Ontario
COUNTRY: CANADA
ZIP: K7L 3N6
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION UNUMBER: US/08/463,092B
FILING DATE: 05-UN-1995
CLASSIFICATION UNUBER: 07/966,923
PRIOR APPLICATION NUMBER: 07/966,923
PLING DATE: 27-OCT-1992
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
PLING DATE: 27-OCT-1992
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 08/029,340
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: PARTEQ RESEARCH & DEVELOPMENT
STREET: Queen's University at Kingston
                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
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                                           UMBER: 08/029,
8-MAR-1993
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CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION: 435
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: 01546
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFAX: (613) 545-6853
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 1520 amino acids
SEGUENCE CHARACTERISTICS:
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Best Local S
Matches 1349
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1-463-092B-6
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nes 1349; Conser
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88.0%; Pred. No. 0;
tive 102; Mismatches
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VLDKGEVRECGAPSELLQQRGIFYSMAKDAGLV
                VLDKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531
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ESULT 15
S-08-462-109A-6
S-08-462-109A-6
Sequence 6, Application US/08462109A
Patent No. 5882875
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING
TITLE OF INVENTION: MULTIDRUG RESISTANT TUMOR (
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESS: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boston
STAIT: Massachusetts
COUNTRY: USA

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CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 07/966,923

FILING DATE: 27-0CT-1992

APPLICATION NUMBER: 08/029,340

FILING DATE: 26-0CT-1993

APPLICATION NUMBER: 08/141,893

FILING DATE: 26-0CT-1993

APPLICATION NUMBER: 08/407,207

FILING DATE: 20-MAR-1995

ATTORNSY/AGENT INFORMATION:

NAME: DECONTI, Giulio A. Jr.

REGISTRATION NUMBER: PQI-002CP4

TRELCOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELEPHONE: (617) 227-7400

TELEPAX: (617) 227-7400

TELEPAX: (617) 227-5941

INFORMATION FOR SEQ ID NO: 6:

SEQUENCE CHARACTERISTICS:

LENGTH: 1528 amino acids

TOPOLOGY: linear

MOLECULE TYPE: protein

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COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: ASCII text

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/462,109A

FILING DATE:

CLASSIFICATION: 435
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          Pred. No. is the number of results predicted by chance to have score greater than or equal to the score of the result being pland is derived by analysis of the total score distribution.
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       Published Applications AA_Main:*

1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*

2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*

5: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
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Maximum Match 100%
Listing first 45 summaries
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US-10-665-283-6
US-10-665-283-4
US-10-665-283-4
US-10-667-891-6
US-10-807-466-6
US-10-807-466-6
US-10-807-466-6
US-10-809-503-87
US-10-809-503-87
US-10-618-281-42
US-10-665-283-2
US-10-665-283-2
US-10-665-283-3
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US-10-809-339-853A-83
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US-10-809-503-63
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US-10-665-283-9
US-10-809-503-63
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Sequence 1, Appli Sequence 8, Appli Sequence 8, Appli Sequence 6, Appli Sequence 6, Appli Sequence 6, Appli Sequence 6, Appli Sequence 19, Appli Sequence 19, Appli Sequence 118, Appli Sequence 1718, Appli Sequence 1718, Appli Sequence 2, Appli Sequence 2, Appli Sequence 1, Appli Sequence 2, Appli Sequence 3, Appli Sequence 9, Appli Sequence 10, Appli Sequence 10, Appli Sequence 10, Appli Sequence 1142, Appli Sequence 11442, Appli Sequence 11442, Appli Sequence 114444444444444444444444444
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3879.5 39.2 1548 5 US-10-865-283-3 3879.5 39.2 1548 5 US-10-807-466-28 3860.5 39.0 1548 5 US-10-807-466-21 3860.5 39.0 1548 5 US-10-807-466-25 3846 38.8 1538 5 US-10-807-466-25 3847 38.7 1538 5 US-10-807-466-25 3848 38.7 1538 5 US-10-807-466-25 3849 38.7 1538 5 US-10-807-466-25 3840 38.8 1538 5 US-10-807-466-25 3841 38.7 1538 5 US-10-807-466-26 3817.5 38.5 1539 5 US-10-807-466-16 3817.9 38.2 1538 5 US-10-807-466-16 3779 38.1 1538 5 US-10-807-466-18 3779 38.1 1538 5 US-10-807-466-18 3779 38.1 1538 5 US-10-807-466-18 3779 38.0 1538 5 US-10-807-466-17 3768 38.0 1538 5 US-10-807-466-17 3769 37.9 1539 5 US-10-807-466-10 3773 37.7 1547 6 US-11-807-466-20	45	44	43	42	41	40	39	38	37	36	υ 5	34	ω S	32	31	30	29	
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## ALIGNMENTS

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APPLICANT: COMMISSARIAT A L'ENERGIE ATOMIQUE
APPLICANT: DERAND, Renaud
APPLICANT: DARCIA, Elisabeth
APPLICANT: PROST, Anne-Lise
APPLICANT: PROST, Anne-Lise
APPLICANT: VIVAUDOU, Michel
TITLE OF INVENTION: ION CHANNEL HYBRID PROTEINS AS
FILE REFERENCE: F263US104
CURRENT APPLICATION NUMBER: US/10/665,283
CURRENT APPLICATION NUMBER: US/20/665,283
CURRENT APPLICATION STATE STATE SOFTWARE: PATENT IN OS: 25
SOFTWARE: PATENT IN OS: 25
SOFTWARE: PATENT IN OS: 25
TYPE: PRT
ORGANISM: Homo sapiens
US-10-665-283-1
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Sequence 6, Application US/10665283;
Publication No. US20050063989A1
GENERAL INFORMATION:
APPLICANT: COMMISSARIAT A L'ENERGIE ATOMIQUE
APPLICANT: DERAND, Renaud
APPLICANT: GARCIA, Elisabeth
APPLICANT: PROST, Anne-Lise
APPLICANT: PROST, Anne-Lise
APPLICANT: VIVAUDOU, Jean
APPLICANT: VIVAUDOU, Michel
TITLE OF INVENTION: ION CHANNEL HYBRID PROTEINS AS
FILE REFERENCE; F263US104
CURRENT APPLICATION NUMBER: US/10/665,283
CURRENT AFFLICATION NUMBER: US/10/665,283
CURRENT FILING DATE: 2003-09-22
NUMBER OF SEQ ID NOS: 25
SOFTWARE: Patentin version 3.1
SEQ ID NO 6
LENGTH: 1927
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; TYPE: PRT
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RESULT 3

US-10-665-283-8

; Sequence 8, Application US/10665283

; Publication No. US20050063989A1

; GENERAL INFORMATION:

; APPLICANT: COMMISSARIAT A L'ENERGIE ATOMIQUE

; APPLICANT: DERAND, Renaud

; APPLICANT: GARCIA, Elisabeth

; APPLICANT: PROST, Anne-Lise

; APPLICANT: VIVAUDOU, Jean

; APPLICANT: VIVAUDOU, Michel

; TITLE OF INVENTION: ION CHANNEL HYBRID PROTE

; FILE REFERENCE: P263US104

; CURRENT APPLICATION NUMBER: US/10/665,283

; CURRENT APPLICATION NUMBER: US/10/665,283

; NUMBER OF SEQ ID NOS: 25

; SOFTWARE: PatentIn version 3.1

; EQ ID NO 8

; LENGTH: 1947

; TYPE: PRT

ORGANISM: Homo sapiens
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RESULT 4  US-10-665-283-4  J. Sequence 4, Application US/10665283  ; Publication No. US20050063989A1  ; GENERAL INFORMATION:  ; APPLICANT: COMMISSARIAT A L'ENERGIE ATOMIQUE  ; APPLICANT: DERAND, Renaud  ; APPLICANT: DERAND, Renaud  ; APPLICANT: DERAND, Renaud	Qy 1901 SRGPLRKRSVAVAKAKPKFSISPDSLS 1927 	841 YLADBILMGQRFVPIVAEEDGRYSVDYS 	01	721 SKHAVITLRHGRLCFMLRVGDLRKSMIISATIHMQVVRKTTSPEGEVVPLHQVDIPMENG 1 	61 SIEVQYTIGFGGRMVTEECPLAILLILTQNIVGLMINALMLGCIFMKTAQAHRAETLIF 	21 LLFAMYWWLLAFAHG	1561 PRYRTHERRARFVSKKGNCNVAHKNIREQGRFLQDVFTTL/DLKWHHTLLLFTMSFLCSW	1501 DKGEIQEYGAPSDLLQQRGLFYSMAXDAGLVGGGGGMLSRKGIIPEEYVLTRLAEDPAE	1441 ARALLEKIKALIYLDERITAAVLETIDDILOSTIKTQFEDCTVLTIAHKLINTIMITIKVIVL 1441 ARALLEKTKILVLDERITAAVDLETDDLIQSTIKTQFEDCTVLTIAHRLINTIMDYTRVIVL	1381 SGSLRMNLDPFSQYSDEEWTSLELAHLKDFVSALEDKLDHECAEGGENLSVGQRQLVCL	1321 EKVGI VGRTGAGKSSLTLGLERI INSAEGELI I DGINI AKIGLHULHEKITI I PODEVLE 	1261 VERLKEYSETEKEAPROIQETAPPSSWPQVGRVEFUNYCLKYREDLDFVLKHINVTINGG	1201 VRLECVGNCIVLEAALEAVISRASLAVGLUSVSISVGVIIIIMMUKKISSEMEINIVA 1201 VRLECVGNCIVLEAALEAVISRASLAGLUGLSVSYSLQVITTYLNWLVRMSSEMEINIVA	1141 KRLESVSRSPVYSHFNETLLGVSVJRAFEBQERFIHQSDLKVDENQKAYYPSIVANRWLA	DTVDSMIPEVIKMEMSSLENVIGACIVILLATPIAAIIIPPLGLIYEFVQREFYVASSRQL 	ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILASPMSFFERTPSGNLVNRFSKEL 

APPLICANT: GARCIA, Elisabeth

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; LENGTH: 1891
; TYPE: PRT
; ORGANISM: HOMO :
US-10-665-283-4
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APPLICANT: REVILLOUD, Jean
APPLICANT: VIVAUDOU, Michel
TITLE OF INVENTION: ION CHANNEL HYBRID PROTE
FILE REFERENCE: F263US104
CURRENT APPLICATION NUMBER: US/10/665,283
CURRENT FILING DATE: 2003-09-22
NUMBER OF SEQ ID NOS: 25
SOFTWARE: PatentIn version 3.1
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Best Local Similarity 100.0%; Pred. No. 0;
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RESULT 5
US-09-939-853A-86
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PRIOR FILLING DATE: 2000-08-25
PRIOR PELLING DATE: 2001-08-25
PRIOR APPLICATION NUMBER: 60/267,300
PRIOR FILLING DATE: 2001-02-08
PRIOR PELLING DATE: 2001-02-20
PRIOR PELLING DATE: 2001-02-20
PRIOR PELLING DATE: 2001-03-20
PRIOR FILLING DATE: 2001-03-20
PRIOR FILLING DATE: 2001-03-20
NUMBER OF SEQ ID NOS: 159
SOFTWARE: PATENTIN Ver. 2.1
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; LENGTH: 1531
; TYPE: PRT
; ORGANISM: Homo :
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Best Local S
Matches 1531
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Publication No. US20040039163A1
GENERAL INFORMATION:
APPLICANT: BUTGESS et al.
TITLE OF INVENTION: No. US2004003916;
FILE REFERENCE: 21402-099
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Sequence 6, Application US/10667891
Publication No. US20040171024A1
GENERAL INFORMATION:
APPLICANT: ROTH, CHARLES W.
APPLICANT: BREY, PAUL T.
APPLICANT: BREY, PAUL T.
APPLICANT: GRAILLES, MARINE
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; APPLICANT: RZHETSKY, ANDREY
TITLE OF INVENTION: MULTIDRUG RESISTANCE PRO
TITLE OF INVENTION: ANOPHELES
FILE REFERENCE: 03495.0294-00000
CURRENT FILING DATE: 2003-09-23
PRIOR APPLICATION NUMBER: 60/413,469
PRIOR FILING DATE: 2002-09-26
NUMBER OF SEQ ID NOS: 76
SOFTWARE: PATENTION TOPS. 3.2
SEQ ID NO 6
LENGTH: 1531
TYPE: PRT
ORGANISM: Homo sapiens
US-10-667-891-6
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                                    SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGGKQRVSLAR
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                                                                      LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
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Sequence 6, Application US/10807466

Publication No. US20040244066A1

APPLICANT: ROTH, CHARLES W.
APPLICANT: BREY, PAUL T.
APPLICANT: HOLM, INGE
APPLICANT: RAPILES, MARINE
APPLICANT: RAPILES, MARINE
TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS IN
TITLE OF INVENTION: AULTIDRUG RESISTANCE PROTEINS IN
TITLE OF INVENTION: AUDPHELES
FILE REFERENCE: 03495.0294-01000
CURRENT APPLICATION NUMBER: US/10/807,466
CURRENT FILING DATE: 2004-03-24
FRIOR APPLICATION NUMBER: 10/667,891
PRIOR APPLICATION NUMBER: 10/667,891
PRIOR APPLICATION NUMBER: 60/413,469
PRIOR FILING DATE: 2003-09-26
PRIOR FILING DATE: 2002-09-26
NUMBER OF SEQ ID NOS: 139
SOFTWARE: Patentin Ver. 3.2
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DROSOPHILA

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                                                                                   DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
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APPLICANT: BPIDAUROS Biotechnologie Aktiengesellschaft
TITLE OF INVENTION: Means and methods for improved treatme
FILE REFERENCE: F2285PCT-1
CURRENT APPLICATION NUMBER: US/10/484,577
CURRENT FILING DATE: 2004-01-22
PRIOR APPLICATION NUMBER: PCT/EP 02/08220
PRIOR RILING DATE: 2002-07-23
PRIOR FILING DATE: 2002-07-23
PRIOR FILING DATE: 2002-07-23
PRIOR FILING DATE: 2002-05-24
NUMBER OF SEQ ID NUMBER: EP 02011710.7
PRIOR RILING DATE: 2002-05-24
NUMBER OF SEQ ID NOS: 683
SOFTWARE: Patentin version 3.1
SEQ ID NO 678
LENGTH: 1531
TYPE: PAT
ORGANISM: Homo sapiens
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Best Local S
Matches 1531
                                                                   atch 79.4%; cal Similarity 100.0%; 1531; Conservative
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MALRGECSADGSDPLWDWNVTWNTSNPDETKCFQNTVLVWVPCFYLWACFPFYELYLSRH
                                                                   Score 7860; D; Pred. No. 0; O; Mismatches
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                                        ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTFSGNLVNRFSKEL
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Sequence 19, Application US/10889503
Publication No. US20050063968A1
GENERAL INFORMATION:
APPLICANT: FOX Chase Cancer Center
APPLICANT: Kruh, Gary D.
APPLICANT: Lee, Kun
APPLICANT: Belinsky, Martin G.
FILE OF INVENTION: NUCLeic Acids and Methods of Use Thereof FILE REFERENCE: FCCC 98-02
CURRENT APPLICATION NUMBER: US/10/889,503
CURRENT APPLICATION NUMBER: US/9/647,140
PRIOR APPLICATION NUMBER: ECT/US99/06644
PRIOR FILING DATE: 2000-09-27
PRIOR APPLICATION NUMBER: E0/079,759
PRIOR APPLICATION NUMBER: 60/079,759
PRIOR FILING DATE: 1998-03-03
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FastESEQ for Windows Version 3.0
SEQ ID NO 19
LENGTH: 1531
TYPE: PRT
COGANISM: Homo Sapiens
US-10-889-503-19
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APPLICANT: AZIZ, Natasha
APPLICANT: Zlotnik, Albert
TITLE OF INVENTION: NOVEL METHODS OF DIAGNOSIS OF METASTATIC CANCER, COMPOSITIONS
TITLE OF INVENTION: METHODS OF SCREENING FOR MODULATORS OF METASTATIC CANCER
FILE REFERENCE: file
CURRENT APPLICATION NUMBER: US/10/756,149
CURRENT FILING DATE: 2004-01-12
NUMBER OF SEQ ID NOS: 5818
SOFTWARE: PatentIn version 3.2
SEQ ID NO 5033
LENGTH: 1531
TYPE: PRT
ORGANISM: Homo Sapiens
US-10-756-149-5033
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CURRENT FILING DATE: 2001-08-27
PRIOR APPLICATION NUMBER: 60/228,191
PRIOR FILING DATE: 2000-08-25
PRIOR FILING DATE: 2000-08-25
PRIOR FILING DATE: 2001-02-08
PRIOR APPLICATION NUMBER: 60/269,961
PRIOR APPLICATION NUMBER: 60/269,961
PRIOR FILING DATE: 2001-02-20
PRIOR FILING DATE: 2001-03-20
VNUMBER OF SEQ ID NOS: 159
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 87
LENGTH: 1515
TYPE: PRT
ORGANISM: Homo sapiens
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Publication No.
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TITLE OF INVENTION: No. U
FILE REFERENCE: 21402-099
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No. US20040039163A1
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RESULT 12
US-10-6.8-281-42
; Sequence 42, Application US/10618281
; Publication No. US20040219609A1
; GENERAL INFORMATION:
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APPLICANT: Estell, David A.
APPLICANT: Lyons, Eric H.
APPLICANT: Yaons, Eric H.
APPLICANT: Yao, Jian
TITLE OF INVENTION: Methods for Modulating Proteins N.
TITLE OF INVENTION: Previously Known as Proteases
FILE REFERENCE: GC773-2
CURRENT APPLICATION NUMBER: US/10/618,281
CURRENT FILING DATE: 2003-07-11
PRIOR APPLICATION NUMBER: US 60/395,325
PRIOR FILING DATE: 2002-07-12
NUMBER OF SEQ ID NOS: 92
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 42
FEWERL: 1515
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; ORGANISM: Homo
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Sequence 1718, Application US/10408765A

Publication No. US20040101874A1

GENERAL INFORMATION:
APPLICANT: Ghosh, Soumitra S.
APPLICANT: Fahy, Eoin D.
APPLICANT: Tahy, Eoin D.
APPLICANT: Taylor, Steven W.
APPLICANT: Taylor, Steven W.
APPLICANT: Glenn, Gary M.
APPLICANT: Glenn, Gary M.
APPLICANT: Harnock, Dale E.
APPLICANT: Warnock, Dale E.
TITLE OF INVENTION: IDENTIFIED IN THE MITOCHONDRIAL PROTEON
FILE REFERENCE: 660088.465
CURRENT APPLICATION NUMBER: US/10/408,765A
CURRENT FILING DATE: 2003-04-04
NUMBER OF SEQ ID NOS: 3077
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US-10-408-765A-1718
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; SEQ ID NO 1718
; LENGTH: 1388
; TYPE: PRT
; ORGANISM: Homo sap
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Best Local Similarity 97.0%;
Matches 1387; Conservative
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MKAIGLEISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALGISQ
                                 GKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDY
                                                                           LFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNA
                                                                                                                                                                                                               VQASVSLKRLRIFLSHBELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPTLNGITF
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1139 QLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRW 1198 		61
1079 BLDTYDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFYQRFYVASSR 1138 	NTVLVWVPCFYLWACFPFYFI	Qy 1 MALRGFCSADGSDPLWDWNVTWNTS
	Score 7002.5; DB 3; Length 1528; Pred. No. 0; Db	70.7%; arity 88.0%; onservative 10
960 LSVYWDYMKAIGLEISFLSIFLFMCNHVSALASNYWLSLWTDD-PIVNGTQEHTKVRLSV 1018      :      :      :	Qγ dd	; LENGTH: 1528 ; TYPE: PRT ; ORGANISM: Mus musculus US-09-939-853A-88
900 MLVTDSAGKOLOROLSSSSSYSGDISRHHNSTABLOKABAKKEETWKLMBADKAQTGQVK 959      :	Qy da	FILING DATE: 2001-03-20 R OF SEQ ID NOS: 159 RRE: Patentin Ver. 2.1 NO 88
840 VMSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGYSGPGKEAKQMENG 899	Qy Db	
780 RAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVII 839 		CURRENT FILING DATE: 2001-08-27  PRIOR APPLICATION NUMBER: 60/228,191  PRIOR FILING DATE: 2000-08-25  PRIOR APPLICATION NUMBER: 60/267,300
720 DSLRENILFGCOLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLA 779               : ::	3Alel Proteins and Nucleic Acids Encoding Same  Db	APPLICA TITLE C FILE RE
660 TLNGITESIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQN 719	Qy Db	-09-9 Seque Seque Publi
600 PMVISSIVQASVSLKRLRIFLSHEELBPDSIERRPVXDGGGTNSITVRNATFTWARSDPP 659	KTKILVLDBATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTK 1388  Oy  Db	Db 1339 KTKILVLDEATAAVDLETDDLIQST
540 KKSAYLSAVGTETWVCTEFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFELNIL 599	NLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLR 1338 QY KTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTR 1496	Db 1279 NLDPPSQYSDEEVWTSLELAHLKDF QY 1447 KTKILVLDEATAAVDLETDDLIQST
	1446	1387
421 VGETVNIMSVDAQRFMDLATYINMIWSAPLQVILALYFLWISIGPSVLAGVAVMIIMVPL 480 480 NAVMANKTKTYOVAHMKSKDNRIKIANEILNGIKVIKIYAWELAFKDKVILAIROEELKVI 539	Db	Qy 1327 GRTGAGKSSLTLGLFRINESAEGEI
	YSETEKBAPWQIQETAPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVGIV 1218  Qy	Db 1159 YSETEKEAPWQIQETAPPSSWPQVG
360 DWQGYEYTVLLEVTACLQTLVLHQYEHICEVSGMRIKTAVIGAVYRKALVITNSARKSST 419	1158	1099
300 LIVKSFYKEMAPSLEKVLYKIFGPYELMSFEFKALHULMMESGPYLLKLLIKEVAUTKAF 359	SKSFVYSHENETILIGVSVIKAFEEQEKFIHQSDLKVDENQKAYYPSIVANKWLAVKLECV 1098 QY GNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAVERLKE 1266 Db	Qy 1207 GNCIVLFAALFAVISRHSLSAGLVG
LWSLINKEDTSEEVPVLVNINKKECDKSRKQFULIVNAPKDESKPKGSSQLDVNESVEA	1206	1147
LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVVS-SKDPAQPKESSKVDANEEVEA		
181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240	TERRYTEMENCOL ENVIOLENCE TO THE PROPERTY OF TH	919
	1086	Qy 1027 GIAVEGYSMAVSIGGILASRCLHVD
121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180	MKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALGISQ 918 QY	Db 859 MKAIGLFISFLSIFLFMCNHVSALA

US-10-613-281-63  US-10-613-281-63  US-10-613-281-63  Sequence 63, Application US/10618281  Pablication No. US20040219669A1  Pablication No. US20040219669A1  CHARLEM LINDRAWTION:  APPLICANT:  Batcall, Dav'd A.  APPLICANT:  APPLICANT:  APPLICANT:  APPLICANTION WHERE:  US 60/395,325  PRIOR PILING DATE:  PRIOR APPLICATION NUMBER:  US 60/395,325  PRIOR PILING DATE:  PRIOR APPLICATION NUMBER:  US 60/395,325  PRIOR PILING DATE:  PRIOR APPLICANTION NUMBER:  US 60/395,325  PRIOR PILING DATE:  PRIOR APPLICANTION NUMBER:  US 60/395,325  PRIOR PILING DATE:  PRIOR APPLICATION NUMBER:  SOOTWARE:  SOOTWARE:  PRIOR PILING DATE:  SOOTWARE:  SOOTWARE:  SOOTWARE:  SOOTWARE:  SOOTWARE:  PRIOR PILING DATE:  SOOTWARE:  SOOTWARE:  SOOTWARE:  SOOTWARE:  SOOTWARE:  SOOTWARE:  SOOTWARE:  PRIOR PILING DATE:  SOOTWARE:  SOOTWARE:  SOOTWARE:  SOOTWARE:  PRIOR PILING DATE:  SOOTWARE:  SOOTWARE:  SOOTWARE:  SOOTWARE:  PRIOR PILING DATE:  SOOTWARE:  SOO	1436 1499 1496		Db 1196 LAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQITAYLMMLVRMSSEMETNI 1255  Qy 1259 VAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTIN 1318  Db 1256 VAVERLKEYSETEKEAPWQIQETAPPSTWPHSGRVEFRDYCLRYREDLDLVLKHINVTIE 1315  Qy 1319 GGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPV 1378  Qy 1319 GGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGVNIAKIGLHDLRFKITIIPQDPV 1378  1316 GGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGVNIAKIGLHDLRFKITIIPQDPV 1375
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Search Job ti	DЬ	δ	DЬ	δ	DЬ
Search completed: December 15, 2005, 15:46:47 Job time : 169.832 secs	1294 YSWAKDAGLV 1303	1522 YSMAKDAGLV 1531	1234 LETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDXTRVIVLDKGEIQEYGAPSDLLQQRGLF 1293	1462 LETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLF 1521	1174 SLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVD 1233

336, App 250, App 250, App 2910, Ap 2910, Ap 2910, Ap 200, App 1150, Ap 2500, App 2500, App 27, App 197, App 197, App 198, App 198, App 284, App 198, App 198, App 284, App 198, App

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Post-processing:
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5: /cgn2_6/prodata/2/pubpaa/US10_NEW_PUB.pep:*

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US-11-090-439-24
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Sequence 968, App
Sequence 24, Appl
Sequence 527, Appl
Sequence 526, Appl
Sequence 969, App
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Sequence 14, Appl
Sequence 13, Appl
Sequence 148, App
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Sequence 575, App
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Sequence 578, App
Sequence 576, App
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; Sequence 968, Application No. US20050272054A1

; Publication No. US20050272054A1

; GENERAL INFORMATION:

APPLICANT: CARGILL, Michele et al.

TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH

TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPONSE, METHODS OF

; TITLE OF INVENTION: DETECTION AND USES THEREOF

; TITLE REFERENCE: CLO01559

; CURRENT APPLICATION NUMBER: US/10/995,561

; CURRENT FILING DATE: 2004-11-24

; NUMBER OF SEO ID NOS: 85702

; SOFTWARE: FASTSEQ for Windows Version 4.0

; SEO ID NO 968

; LENGTH: 1023

; TYPE: PRT

; ORGANISM: Homo sapiens

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Minimum DB Maximum DB

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                                             US-11-090-439-24
                                                        SEQ ID NO 24
LENGTH: 1581
TYPE: PRT
ORGANISM: Homo
                                                                                                                                                                                                                                                                                      Sequence 24, Application US/11090439 Publication No. US20050266442A1 GENERAL INFORMATION:
                                                                                                                APPLICANT: Squillace, Rachel
APPLICANT: Weiner, Michael P.
TITLE OF INVENTION: Immortalized Human Tuberous Sclerosis Null
TITLE OF INVENTION: Angiomyolipoma Cell and Method of Use Thereof
FILE REFERENCE: 24318-502
CURRENT APPLICATION NUMBER: US/11/090,439
CURRENT FILING DATE: 2005-03-25
PRIOR APPLICATION NUMBER: 60/556,344
PRIOR FILING DATE: 2004-03-25
NUMBER OF SEQ ID NOS: 62
NUMBER OF SEQ ID NOS: 62
NUMBER OF Attentin Ver: 2.1
 Best Local Similarity
              Query Match
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GSPAQLLAQKGLFYRLAQESGLV
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21.4%;
Score 2115; DB 7
Pred. No. 3e~147;
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                                                                                                                      Q----AGILELLRDDKRTVVLVTHKLQYLPHADWIIAMKDGTIQREGTLKDFQRSECQL
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                            DISRHINSTAELQKAEAKKEETWKLMEADKA-----QTGQVKLSVYWDYMKAIGLFISFL
                                                           FEHWKTLMN-RODOELEKETVT----ERKATEPPOG-----
                                                                                         AEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSG
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GENERAL INFORMATION:

APPLICANT: CARGILL, Michele et al.

TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH

TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPONSE, METHODS OF

TITLE OF INVENTION: DETECTION AND USES THEREOF

FILE REFERENCE: CL001559

CURRENT APPLICATION NUMBER: US/10/995,561

CURRENT FILING DATE: 2004-11-24

NUMBER OF SEQ ID NOS: 85702

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 527

LENGTH: 1588

TYPE: PRT

ORGANISM: Homo sapiens
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Best Local Similarity
Matches 527; Conserv
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                                              CFVDALNVVPHVFLLFITFPILFIGWGSQSSKVHIHHS-----TWLHFPGHNLRWILTF
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                     ADLFYSFWERSRGIFLAPY-----FLVSPT----LLGITTLLATFLIQLERRKGVQSSG
                                                                   CFQNTVLVWVPCFYLWACEPFYFL-YLSRHDRGYIQMTPLNKTKTALGF----LLWIVCW
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                                                                                             Conservative
                                                                                                      21.2%; Score 2101.5; DB 6; 31.8%; Pred. No. 2.9e-146;
                                                                                            Mismatches
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          I---VLCLVTSVTVEWTGLKVAKRLHRSLLNRIILAPMRFFETTPLGSILNRFSSDCNTI
                         ISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTV
                                                                      SIFLEMCNHVSALASNYWLSLWTDDPIV-----NGTQEHT------KVRLSVYGALG
                                                                                                                                                                            AEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSSSS
                                                                                                                                                                                                ENVIGPKGMLK-----NKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAF
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                                                     LVFSQLLKHMVLVAIDYWLAKWTDSALTUTPAARNCSLSQECTLDQTVYAMVFTVLCSLG
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                                                                                                                              DISRHHNSTAELQKAEAKKEETWKLMEADKA----
                                                                                                                                                     FEHWKTLMN-RODOELEKETVT-----ERKATEPPOG------LSRAMSSRDGL--
                                                                                                                                                                                                                                                                                                               TPDGIPTLSNITIRIPRGQLTMIVGQVGCGKSSLLLAALGEMQKVSGAVFWSSLPDSEIG
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RESULT 4

US-11-090-439-26

US-11-090-439-26

Sequence 26, Application US/11090439

Publication No. US20050266442A1

GENERAL INFORMATION:
APPLICANT: Squillace, Rachel
APPLICANT: Weiner, Wichael P.
TITLE OF INVENTION: Immortalized Human Tuberous Sclerosis Null
TITLE OF INVENTION: Angiomyolipoma Cell and Method of Use Thereof
FILE REFERENCE: 24318-502

CURRENT APPLICATION NUMBER: US/11/090,439

CURRENT APPLICATION NUMBER: 50/556,344

PRIOR APPLICATION NUMBER: 60/556,344

PRIOR FILING DATE: 2004-03-25

NUMBER OF SEQ ID NOS: 62

SOFTWARE: Patentin Ver. 2.1

SEQ ID NO 26

LENCTH: 1581

TYPE: PRT
ORGANISM: Homo sapiens
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Best Local S
Matches 524
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                                                                                                          MLLFVLVCEIAEGILSDGVTESHHLHLYMPAGMAFMAAVTSVV--YYHNIETSNFPKLLI
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                CFSDRSPLFSET---IHDPNPCPESSASFL----SRITFWWITGLIVRGYRQPLEGS
                                                                         IMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITF-----YVYFSLLLIQLVLS
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                                         ALLVYWTLAFI----TKTIKFVKLLDHAIGFSQLRFCLTGLLVILYGMLLLVE--VN
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                                                                                                                                                                                  VFSQLLKHMVLVAIDYWLAKWTDSALTLTPAARNCSLSQECTLDQTVYAMVFTVLCSLGI 1075
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TTQLPLLSHFAETVEGLTTIRAFRYEARFQQKLLEYTDSNNIASLFLTAANRWLEVRME
                            SVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLE
                                                                                                                                          SQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVD
                                                                                                                                                                                                                                                                                                            EHWKTLMN-RQDQELEKETVT----ERKATEPPQG-----LSRAMSSRDGL---
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                                                             QHIPSTLECLSRSTLLCVSALAVISYVTPVFLVALLPLAVVCYFIQKYFRVASRDLQQLD
                                                                                           SMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRLE 1144
                                                                                                                          ---VLCLVTSVTVEWTGLKVAKRLHRSLLNRIILAPMRFFETTPLGSILNRFSSDCNTID
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APPLICANT: CARGILL, Michele et al.
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPONSE, METHODS
TITLE OF INVENTION: DETECTION AND USES THEREOF
FILE REFERENCE: CL001559
CURRENT PAPPLICATION NUMBER: US/10/995,561
CURRENT FILING DATE: 2004-11-24
NUMBER OF SEQ ID NOS: 85702
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 526
SEQ ID NO 526
TENGTH: 1404
TYPE: PRT
ORGANISM: Homo sapiens
US-10-995-561-526
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US-10-995-561-526
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 369; Conser
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     AFDAQVRKDIQGTQGARAIWQALSHAFGRRLVLSSTFRILADLLGFAGPLCIFGIVDHLG
                                                       EVEALIVKSPQ-KEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFV-
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                                                                                                              -LPIAMRALTNYQRLC---
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  Application US/10995561
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APPLICANT: MacKinnon, Roderick
APPLICANT: The Rockefeller University
TITLE OF INVENTION: Assays for Screening Compounds Which Interact With
TITLE OF INVENTION: Cation Channel Proteins, Mutant Prokaryotic Catic
TITLE OF INVENTION: Cation Channel Proteins, and Uses Thereof
FILE REFERENCE: 018512-002901US
CURRENT APPLICATION NUMBER: US/10/613,744
CURRENT FILING DATE: 2003-07-03
PRIOR APPLICATION NUMBER: US/09/275,252
PRIOR PRILING DATE: 1999-03-24
PRIOR FILING DATE: 1998-03-20
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: US 09/045,327
PRIOR APPLICATION NUMBER: US 09/054,347
PRIOR FILING DATE: 1998-04-02
PRIOR FILING DATE: 1998-04-02
PRIOR FILING DATE: 1998-03-22
NUMBER: OF SEQ ID NOS: 42
NUMBER: OF SEQ ID NOS: 42
NUMBER: OF SEQ ID NOS: 42
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US-10-613-744-14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQ ID NOS: 85702
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 969
LENGTH: 410
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 14, Application US/10613744
Publication No. US20050272093A1
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APPLICANT: CARGILL, Michele et al.
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: CARDLOVASCULAR DISORDERS AND DRUG RE
TITLE OF INVENTION: DETECTION AND USES THEREOF
FILE REFERENCE: CLOO1559
CURRENT APPLICATION NUMBER: US/10/995,561
CURRENT FILING DATE: 2004-11-24
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US-10-995-561-967
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                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: CARBIOLASCULAR DISORDERS AND DRUG RESPONSE, METHODS OF
TITLE OF INVENTION: DETECTION AND USES THEREOF
FILE REFERENCE: CLOO1559
CURRENT APPLICATION NUMBER: US/10/995,561
CURRENT FILING DATE: 2004-11-24
NUMBER OF SEQ ID NOS: 85702
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 967
LENGTH: 268
TYPES. DET
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LENGTH: 407
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Best Local Similarity 56.3%;
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Best Local Similarity
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TYPE: PRT
ORGANISM: Homo sapiens
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                      1444
                                                                                    1384 LRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARA 1443
                                                                                                                                                                  1324 GIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGS 1383
                                                                                                                                                                                                                                                         1264 LKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKV
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LLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKG
                                                                                                                                          GIVGRTGAGKSSLASGLLRLQEAAEGGIWIDGVPIAHVGLHTLRSRISIIPQDPILFPGS
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                                                           LRMNLDLLQEHSDEAIWAALETVQLKALVASLPGQLQYKCADRGEDLSVGQKQLLCLARA
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48.7%; Pred. No. 1.4e-57;
cive 74; Mismatches 95
                                                                                                                                                                                                                                                                                                  ; Score 799; DB 6; Length 268; Pred. No. 1.2e-51; 56; Mismatches 61; Indels
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RESULT 10
US-10-793-626-326
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CURRENT APPLICATION INVESER: US/10/613,744
CURRENT FILING DATE: 2003-07-03
PRIOR APPLICATION NUMBER: US/09/275,252
PRIOR APPLICATION NUMBER: US/09/045,529
PRIOR FILING DATE: 1998-03-24
PRIOR PILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: US/09/044,347
PRIOR FILING DATE: 1998-04-02
PRIOR APPLICATION NUMBER: WO 9/054,347
PRIOR PRILING DATE: 1998-04-02
PRIOR APPLICATION NUMBER: WO PCT/US99/06307
PRIOR APPLICATION DATE: 1999-03-22
NUMBER OF CEO 170 NOS-03-22
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Best Local Sim
Matches 150;
                                                                  Sequence 326, Application US/10793626 Publication No. US20050255478A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 13, Application US/10613744
Publication No. US20050272093A1
GENERAL INFORMATION:
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  APPLICANT: KIMMERLY, WILLIAM JOHN TITLE OF INVENTION: STAPHYLOCOCCUS FILE REFERENCE: PU3480US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: Assays for Screening Compounds which Interact With TITLE OF INVENTION: Cation Channel Proteins, Mutant Prokaryotic Cation TITLE OF INVENTION: Channel Proteins, and Uses Thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 42
SOFTWARE: PatentIn Ver. 2
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                           EPIDERMIDIS
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                           NUCLEIC
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US-10-467-657-1346
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                                                                                                                                                                        GENERAL INFORMATION
                                                                                                                                                                                           Sequence 1346, Application US/10467657
Publication No. US20050260581A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 326
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Best Local Similarity
                                                             APPLICANT: CHIRON SPA
APPLICANT: FONTANA Maria Rita
APPLICANT: PIZZA Mariagrazia
APPLICANT: MASIGNANI Vega
APPLICANT: MONACI Elisabetta
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PRIOR FILING DATE: 1999-11-09
NUMBER OF SEQ ID NOS: 4472
SOFTWARE: Patentin Ver. 2.1
FILE REFERENCE: CURRENT APPLICATION NUMBER: US/10/467,657
                                           TITLE OF INVENTION: GONOCOCCAL PROTEINS AND NUCLEIC ACIDS
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CURRENT FILING DATE: 2004-03-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 548
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
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OTHER INFORMATION:
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27.1%;
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CURRENT FILING DATE: 2003-08-11; PRIOR APPLICATION NUMBER: GB-0103424.8; PRIOR FILING DATE: 2001-02-12; NUMBER OF SEQ ID NOS: 9218; SOFTWARE: SeqWin99, version 1.04; SEQ ID NO 1346; SEQ ID NO 1346; LENGTH: 622; TYPE: PRT; ORGANISM: Neisseria gonorrhoeae US-10-467-657-1346
                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
US-11-082-389-148
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                                                                                                                                                                                                                                                                                                                                   Sequence 148, Application US/11082389 Publication No. US20050244935A1 GENERAL INFORMATION:
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Best Local Similarity
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                                                                                                                                                                                                                             APPLICANT:
             APPLICANT: Haberhauer, Gregor
TITLE OF INVENTION: CONYNEBACTERIUM GLUTAMICUM GENES ENCODING PRO
TITLE OF INVENTION: INVOLVED IN MEMBRANE SYNTHESIS AND MEMBRANE
TITLE OF INVENTION: TRANSPORT
FILE REFERENCE: BGI-131CPCN
CURRENT APPLICATION NUMBER: US/11/082,389
CURRENT FILING DATE: 2005-03-16
PRIOR APPLICATION NUMBER: US 09/603024
PRIOR APPLICATION NUMBER: US 60/141031
PRIOR PILING DATE: 2000-06-23
PRIOR FILING DATE: 1999-06-25
PRIOR FILING DATE: 1999-06-25
                                                                                                                                                                                                                                                                  APPLICANT: Pompejus,
APPLICANT: Kroger, I
APPLICANT: Schroder
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APPLICATION NUMBER: US
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TVDSMIPEVIKMFMGSLFNVIGACIVILL----ATPIAAIIIPPLGLIYFFVQRFYVASS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ROLKRIESVSRSPVYSHFN---ETLLGVSVIRAFEEQERFIHQSDL-----KVDE 1184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QSVSNASDIFTVLTRDTMIVTGLTIVLLYLNWQLSLIVVLMFPLLSLL----SRYY---R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NIAKIGLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYS----DEEVWTSLELAHLKDF 1411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DRLKHVISDSQKSIGTMNNVIAETHQGHRVVKLFNGQAQAANRFDAVNRTIVRLSKKITQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IDASPLGIHQPIGSNGSNLSGGQRQRVAIARAILKDAPILLLDEATSALDNESERLVQQA 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DIADIKLDCLRAQFALVSQDVFLFDDTLFENV----RYSRPDAGEAEVLSALQAANLQSL 495
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQST 1471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGI 1356
                                                                                                                                                                                                                                                Schroder, Hart
Zelder, Oskar
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Schroder, Hartwig
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ilarity 28.7%;
Conservative 10
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%; Pred. No. 9.1e-29;
106; Mismatches 213;
60/143262
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PRIOR FILING DATE: 1999-07-01
PRIOR APPLICATION NUMBER: DE 19931549.3
PRIOR FILING DATE: 1999-07-08
PRIOR FILING DATE: 1999-07-08
PRIOR FILING DATE: 1999-07-08
PRIOR APPLICATION NUMBER: DE 19932134.5
PRIOR FILING DATE: 1999-07-09
PRIOR APPLICATION NUMBER: DE 199321379.7
PRIOR PILING DATE: 1999-07-09
PRIOR PRIOR PILING DATE: 1999-07-09
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NUMBER OF SEQ ID NOS: 446
SEQ ID NO 148
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PRIOR APPLICATION NUMBER: US 60/151281
PRIOR FILING DATE: 1999-08-27
PRIOR APPLICATION NUMBER: DE 19930487.4
PRIOR APPLICATION NUMBER: DE 19930489.0
PRIOR APPLICATION NUMBER: DE 19930489.0
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TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Match 4.7%; Score 468.5; DB 7 Local Similarity 26.9%; Pred. No. 7.3e-27;
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                                          1477
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PDATKLIVAQRVSTIRDADQIVVLDNGEVVGIGTHTNLLNTCGTY
                                                                                                                       DKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQF 1476
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                                        EDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLF 1521
                                                                                     EGLDSEIAQGGTNVSGGQRQRLAIARALLKQPEIYIFDDSFSALDVSTDAALRRALSTNL
                                                                                                                                                                           EPLKLWDRIGLVPOKSFLFSGTIASNL----RYGNEDATETQLWQALAIAQAADFVREMP
                                                                                                                                                                                                                                                                                     REDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLF-RINESAEGEIIIDGINIAKI 1361
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                                                                                                                                                                                                                    GLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSDE----EVWTSLELAHLKDFVSALP 1416
                                                                                                                                                                                                                                                               PGADDPVLNNVSFRVAPGSTTAIIGSTGSGKTTL-IGLVPRLFDVTEGDVTVDGTDVREF
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    See File Wrapper or PALM.

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US-10-995-561-575

US-10-995-561-575

; Sequence 575, Application US/10995561

; Publication No. US20050272054A1

; GENERAL INFORMATION:

APPLICANT: CARGILL, N TITLE OF INVENTION: C TITLE OF INVENTION: TITLE OF INVENTION:

Michele et al.
GENETIC POLYMORPHISMS ASSOCIATED WITH
CARDIOVASCULAR DISORDERS AND DRUG RE

DETECTION AND USES

THEREOF

RESPONSE, METHODS

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; FILE REFERENCE: CL001559
; CURRENT APPLICATION NUMBER: US/10/995,561
; CURRENT FILING DATE: 2004-11-24
; NUMBER OF SEQ ID NOS: 85702
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 575
; LENGTH: 701
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-995-561-575
GENERAL INFORMATION:

APPLICANT: CARGILL, Michele et al.

TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH

TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPON

TITLE OF INVENTION: DETECTION AND USES THEREOF

FILE REFERENCE: CLOO1559

CURRENT APPLICATION NUMBER: US/10/995,561

CURRENT APPLICATION NUMBER: 2004-11-24

NUMBER OF SEQ ID NOS: 85702

SOFTWARE: PastSEQ for Windows Version 4.0

SEQ ID NO 574

LENGTH: 808

TYPE: PRT
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US-10-995-561-574
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                                                                                                                                                                                                                                                                                                                                                                                                  QFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLFYSMAK 1526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVD----LETDDLIQSTIRT 1474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VNSWTTSISGMLLKVGILYIGGQLVTSGA--
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977 LSIFLFM--CNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYS 1034
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US-11-105-268-53
Sequence 55, Application US/11105268
Publication No. US20050260204A1
GENERAL INFORMATION:
                                                                                                       US-11-105-268-53
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                                                                                                                                                                                            SOFTWARE: PatentIn version 3.2 SEQ ID NO 53
Query Match 4.2%; Score 419.5; DB 7; Best Local Similarity 25.2%; Pred. No. 5.3e-23; Matches 149; Conservative 130; Mismatches 234;
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Best Local Similarity
Matches 149; Conserv
                                                                                                                                                                                                                                  APPLICANT: Allan, Christian
TITLE OF INVENTION: ANTI-L1-9 ANTIBODY FORMULATIONS /
FILE REFERENCE: 10271-126-999
CURRENT APPLICATION NUMBER: US/11/105,268
CURRENT FILING DATE: 2005-04-12
PRIOR APPLICATION NUMBER: 60/561,845
PRIOR FILING DATE: 2004-04-12
NUMBER OF SEQ ID NOS: 60
                                                                                                                      LENGTH: 808
TYPE: PRT
ORGANISM: Homo
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25.2%; Pred. No. 5.3e-23;
htive 130; Mismatches 234;
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Search completed: December 15, 2005, 15:50:05 Job time : 18.2651 secs

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Result
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Listing first 45 summaries
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A, Revilloud J, Vivaudou M;				3.			391Ycine spacer" 5.2 protein"	rug resistance protein 1 (MRP1)		<pre>drug screening; diagnostic; on; potassium channel; fusion protein; protein 1; MRP1; Kir6.2.</pre>	fusion protein, SEQ ID NO: 1.			1927 AA.	ALIGNMENTS	AAW99895 Aaw99895 AAY55800 Aay55800										Aay5579	2500000
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The present invention relates to a hybrid protein consisting essentially

Claim 25; SEQ ID NO 1; 78pp; English.

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microorganism detection; potassium channel; fusion protein;
multidrug resistance protein 1; MRP1; Kir6.2; mutein.
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The present invention relates to a hybrid protein consisting essentially of the fusion of a membrane protein with an ion channel which is not naturally coupled to the membrane protein. The hybrid protein is used as an electrical sensor for screening of an agonist/antagonist of a membrane protein, drugs and for detecting a contaminant/pollutant in a sample. The invention is also useful for medical diagnostics and microorganism detection. The present sequence is a fusion protein comprising human multidrug resistance protein 1 (MRP1) and mouse inner rectifier potassium channel Kir6.2 protein containing HA epitope peptide.
                                                                                                                                                                           New ion channel hybrid protein, used an agonist/antagonist of a membrane prontaminant/pollutant in a sample.
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                                           SGSLRMNLDPFSQYSDEEVWTSLELAHLKDPVSALPDKLDHECAEGGENLSVGQRQLVCL 1440
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microorganism detection; potassium channel; fusion protein;
multidrug resistance protein 1; MRP1; Kir6.2; mutein.
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/note= "Multidrug resistance
/1532 .1537
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1538. .1891
/note= "Kir6.2 mutant deltaC36
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New ion channel hybrid protein, used as electrical sensor for
an agonist/antagonist of a membrane protein and for detecting
contaminant/pollutant in a sample.
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08-MAR-1993;
26-OCT-1993;
20-MAR-1995;
                                                                                                                                 This represents a variant of the human multidrug resistance-associated protein (MRP). This natural variant is a leismania P-glycoprotein related molecule ItBppA (Lei/PgpA). The human and murine MRP nucleic acid molecules can be used as probes for identifying multidrug resistant tumour cells by hybridisation to mRNA from tumour cells. The antisense nucleic acid can be used to reverse multidrug resistance (MDR). A recombinant expression vector containing the MRP nucleic acid molecules operatively linked to at least one regulatory sequence can be used to transform a host cell to produce a recombinant MDR-associated protein
                                                                                                               Sequence
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   DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA 120
                                   MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
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                                             DTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQL
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08-MAR-1993;
26-OCT-1993;
20-MAR-1995;
This sequence is the human multidrug resistance-associated (MDR) The invention relates to a method for identifying a multidrug res (MDR) tumour cell. Compositions are thought utilising the MDR procan be used to treat patients with tumours displaying multidrug resistance, particularly those displaying resistance to anthracycepipodophyllotoxins, vinca alkaloids, and hydrophobic drugs. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cole
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                                                                                                                                                                                                                                                                     Identifying a multidrug resistant tumor cell by contacting the cell with an antibody/antigen-binding fragment - which binds to an expressed protein encoded by multidrug resistance-associated protein (MRP) nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-JUN-1995;
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resistance of a tumour (using cells from a tumour biopsy) and for designing ribozymes which are capable of cleaving a single-stranded nucleic acid encoding a protein having MRP activity. Recombinant expression vectors containing human MDR coding sequences can be transfected into a drug sensitive cell line to produce a protein in the cell which confers MDR, protecting non-resistant non-tumour cells from the effects of chemotherapeutics has major clinical importance. Cells transformed with the MDR coding sequences are useful for testing potential therapeutic agents for their effectiveness against MDR cells and for identifying chemosensitisers of a therapeutic agent
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  95US-00460907
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27-OCT-1992;
08-MAR-1993;
26-OCT-1993;
20-MAR-1995;
                                                           The present sequence represents a human multidrug resistance-associated protein (NRP). The present invention also describes a method for protecting a mammalian cell against the cytotoxicity of anthracyclines, epipodophyllotoxins and Vinca alkaloids (A) by introducing into it a nucleic acid (I) that hybridizes under stringent conditions to a nucleic cells against cytotoxic effects of (A), particularly to protect normal cells against (A) being used for treatment of cancers. Cells transformed with (I) can be used to screen for agents that affect multidrug resistance or are directly toxic to multidrug resistant cells, i.e. potential therapeutics for multidrug-resistant cancers. Conferring resistance to normal cells should allow an increase in the dose of (A) that can be administered safely
                                Sequence 1531 AA;
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                                                                                                                                                                                                                                                                                        Claim
                                                                                                                                                                                                                                                                                                                     Protecting mammalian cells against cytotoxic
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93US-00029340.
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Best Local Similarity Matches 1531; Conserv Query Match Best Local 79.4%; ilarity 100.0%; Conservative ( Score 7860; D; Pred. No. 0; O; Mismatches o •• o ;-Length Indels 0,

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                                                   GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVN
                                                                                  WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
                                                                                                                       IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
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              standard;
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                                                                                                                                      ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL
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08-MAR-1993;
26-OCT-1993;
20-MAR-1995;
                                                                                                                                                                                              The invention provides a method for identifying a substance which is a chemosensitizer that comprises, contacting a cell transfected with nucleic acid encoding multidrug resistance-associated protein (MRP) with a therapeutic agent in vitro. The method is useful for identifying chemosensitizers which may then be used to treat cancer (especially lung cancer). The method allows the identification of chemosensitizers which do not reverse P-glycoprotein-mediated multidrug resistance. The present sequence represents a human MRP variant
                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                          Claim
                                                                                                                                                                                                                                                                                                                               Identification of chemosensitizers useful for treating cancer, using nucleic acids encoding multidrug resistance-associated protein.
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TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS
                                  DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA
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                                                                                                                             79.4%; ilarity 100.0%; Conservative
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                                                                      VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA
                                                                                                                                                                KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200
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This sequence represents a human multidrug resistance protein (MRP) natural variant amino acid sequence. The human MRP confers multidrug resistance, including resistance to at least two drugs selected from anthracyclines, epipodophyllotoxins and Vinca alkaloids, on a drug sensitive mammalian cell, when the protein is expressed in the cell. The multidrug resistance is not substantially reversed by chemosensitizers which reverse P-glycoprotein-mediated multidrug resistance. The MRP protein sequence can be used to generate antibodies against MRP. The MRP protein and nucleotide sequences can be used in compositions which are used to treat patients with tumours displaying multidrug resistance. The compositions and methods of the invention can be used particularly to treat breast cancer, leukaemias, fibrosarcomas, cervical cancer, gliomas, thymonas, neuroblastomas, and lung cancer. Antibodies directed against MRP can be used to inhibit the multidrug resistance of a multidrug

Col 79-88;

78pp; English

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Sequence 1531

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08-MAR-1993;
26-OCT-1993;
20-MAR-1995;
                                                                                                                                                                   Isolated protein conferring multidrug resistance, selected from anthracyclines, epipodophyllotoxins a drug sensitive mammalian cell.
                                                                                                                                                                                                                                                                                                         05-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                         Multidrug resistance protein; MRP; human; epipodophyllotoxin; cancer; leukaemia.
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93US-00029340.
93US-00141893.
95US-00407207.
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Claim

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The present invention relates to methods of detecting a prostate cancer-
CC associated transcript in a cell from a patient. The method comprises
CC contacting a biological sample from the patient with prostate cancer-
CC associated polymucleotides (designated PC genes) that selectively
CC hybridise to a sequence that is at least 80% identical to them. The
CC prostate cancer-associated polymucleotide sequences are differentially
CC expressed in prostate tumour tissue or in prostate cancer and are derived
CC (e.g. mice, sheep and dogs). The methods of the invention are useful for
CC (e.g. mice, sheep and dogs). The methods of the invention are useful for
CC diagnosing and treating prostate cancer in mammals. The prostate cancer,
CC associated genes are useful for diagnosing or treating prostate cancer,
CC associated genes are useful for diagnosing or treating prostate cancer,
CC as well as for identifying modulators of prostate cancer or agents that
CC inhibit prostate cancer. The mucleic acid sequences are particularly
CC useful in gene therapy, as a vaccine or in antisense applications.
CC ABG61800-ABG61944 represent prostate cancer—associated proteins
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                                                                                                                                                                                                                                                                                                                                                                                                                   The present invention describes the use of irinotecan (I) or its CC derivative for the preparation of a pharmaceutical composition for treating colorectal, cervical, gastric, lung, ovarian composition for CC cancer, or malignant glioma in a subject having a genome with a variant CC allele which comprises a cytochrome p450, subfamily IIIA (nifedipine CC oxidase), polypeptide 5 (CYP3A5) polynucleotide (II). (I) and (II) have CY cytostatic activity. The therapeutic applications of (I) is improved, CY conce it is possible to individually treat a subject with an appropriate CY dosage and/or an appropriate derivative of (I). Therefore, undesirable, CY harmful or toxic effects are efficiently avoided. Unnecessary and CY contained with substances (monresponders), as well as the development of CY creatment with substances (monresponders), as well as the development of CY creatment with substances (monresponders), as well as the development of CY resistances due to suboptimal drug dosing can be avoided. ACF62200 CC to ACF62751 and ABM34912 to ABM35013 represent sequences used in the CY exemplification of the present invention
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New use of irinotecan for preparation of compositions for treating in subject having genome with variant allele comprising cytochrome subfamily IIIA, polypeptide 5 polynucleotide, termed CYPJA5.
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24-MAY-2002;
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                              IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
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                IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMPSGPQILKLLIKFVNDTKAPD
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Best Local Sim
Matches 1531;
                                                                                                                                                                                                                                                                                                         The present invention describes a method for the use of irinotecan (I) of its derivative for the preparation of a pharmaceutical composition for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject having a genome with a variant allele which comprises a multidrug resistance protein I (MRP1) polymucleotide (II). (I) has cytostatic activity. (I) or its derivative can be used for the preparation of a pharmaceutical composition for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject, where the subject is a human (preferably African or Asian) or a mouse. The present sequence represent a sequence which is used in the exemplification of the present inventior
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Use of irinotecan or its derivative for preparation of a pharmaceutical composition for treating cancer in a subject having a genome with a variant allele comprising a multidrug resistance protein 1 polynucleotide.
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The invention relates to the novel use of irinotecan to treat a patient suffering from cancer. This involves determining if the patient has one or more variant alleles of the UGTIA1 gene, and if the patient has one or more of such variant alleles, irinotecan is administered in an increased or decreased amount in comparison to the amount that is administered without regard to the patient's alleles in the UGTIA1 gene. The invention has cyrostatic activity. A composition of the invention acts as a topoisomerase I inhibitor. The method is useful for treating a patient, an animal e.g. mouse or a human, preferably African or Asian, suffering from cancer such as colorectal, cervical, gastric cancer, lung, ovarian, pancreatic cancer or malignant glioma. The present sequence is udes in the exemplification of the invention.
                                                                                                                                                                                                                                                                                           Use of irinotecan to treat cancer patient by determining if patient has variant alleles of UGT1A1 gene, administering increased/decreased amounts of irinotecan based on increased/decreased levels of UGT1A1 gene product.
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multidrug resistance
New use of irinotecan for preparation of treating cancer in subject having genome
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24-MAY-2002; 2002EP-00011710.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  irinotecan; colorectal cancer; cervical cancer; gastric cancer;
lung cancer; ovarian cancer; pancreatic cancer; malignant glioma;
multidrug resistance 1; MDR1; cytostatic; human; Cyp3A5; MRP1; MDR1;
                                                                              WPI; 2003-268145/26.
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                                                             The invention relates to the novel use of irinotecan or its derivative for the preparation of pharmaceutical compositions for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject having a genome with a variant allele which comprises a multidrug resistance 1 (MDR1) polynucleotide. A composition of the invention has cytostatic activity. The invention is useful for the preparation of pharmaceutical compositions for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject (preferably human, more preferably African or Asian) or a mouse. The present sequence is used in the exemplification of the
Sequence 1531
                                                                                                                                                                                                                                                                                                                                                 Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                             multidrug resistance 1 polynucleotide
                                                                                                                                                                                                                                                                                                                                               SEQ ID NO
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                                                                                                                                                                                                                                                                                                                                            678; 130pp; English.
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DB 7;

Length

Query Match Best Local S Matches 1531 1531; 241 181 181 121 241 121 61 61 Similarity LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS DRGYIQMTPLNKTKTALGFLLMIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA MALRGECSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 79.4%; Score 7860; lilarity 100.0%; Pred. No. 0; Conservative 0; Mismatches 0, Indels 180 120 300 300 240 240 180 120 60

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                                                                          irinotecan; colorectal cancer; cervical cancer; gastric cancer;
lung cancer; ovarian cancer; pancreatic cancer; malignant gliom
multidrug resistance 1; MDR1; cytostatic; human; UGT1A1; MRP1;
  20-FEB-2003
                           WO2003013535-A2
                                                  Homo sapiens
                                                                                                                          Human MDR1 related protein sequence
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The invention relates ro a novel use of irinotecan or its derivative for the preparation of a pharmaceutical composition for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject having a genome with a variant allele which comprises a multidrug resistance 1 (MDR1) polynucleotide. A composition of the invention has cytostatic activity. The present sequence is used in the exemplification of the invention has cytostatic activity.
                                                                                                                                                                                                   New use of irinotecan for preparation of pharmaceutical compositions for treating cancer in subject having genome with variant allele comprising multidrug resistance 1 polynucleotide.
Sequence 1531 AA;
                                exemplification of the invention.
                                                                                                                                                                     Disclosure;
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24-MAY-2002;
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                             KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP
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MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT
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	QLVCL 1440	SGSLRMNLDPFSQYSD	1381	밁
	2LVCL 1440	SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENL	1381	Ş
	DPVLF 1380	VGRTGAGK	1321	망
	DPVLF 1380	EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIFQDFVL	1321	δ
	TINGG 1320	TEKE	1261	망
	TINGG 1320	VERLKEYSETEKBAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINV	1261	5
	TNIVA 1260	VRLECVGNCI VLFAALFAVI SRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEME:	1201	DЬ
	<u>,                                    </u>	VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA	1201	ફ
	NRWLA 1200	KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVA	1141	망
	NRWLA 1200	KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA	1141	Ş
-	SSRQL 1140	IIPPLGLIYFFVQ	1081	<b>D</b>
_	-SP	SMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVA	1081	Ş
_	FSKEL 1080	ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNR	1021	Db
_	FSKEL 1080	ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFS	1021	Ş
_	LSVYG 1020	SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVR	961	Д
_	LSVYG 1020	SVYWDYMKAIGLEISELSIELEMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLS	961	Ś
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Result
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Qy 61 DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLYSPTLLGITTLLA 120	Qy 1 MALRGECSADGSDPLWDWNVTWNTSNPDETKCFQNTVLVWVPCFYLWACFPEYFLYLSRH 60	Query Match 79.3%; Score 7849; DB 1; Length 1531; Best Local Similarity 99.9%; Pred. No. 0; Matches 1529; Conservative 0; Mismatches 2; Indels 0; Gaps 0;	C;Reywords: antiblotic resistance; ATP; duplication; nucleotide binding; P-loop; transmer; F;661-844/Domain: ATP-binding cassette homology <abc1> F;678-685/Region: nucleotide-binding motif A (P-loop) F;788-792/Region: nucleotide-binding motif B F;1310-1503/Domain: ATP-binding cassette homology <abc2> F;1327-1334/Region: nucleotide-binding motif A (P-loop) F;1450-1454/Region: nucleotide-binding motif B</abc2></abc1>	C. (Sepret 108: MRP  A;Cross-references: GDB:136335; OMIM:158343  A;Cross-references: GDB:1.16335; OMIM:158343  A;Map position: 16913.1-15913.1  C. (Superfield: A map modified to provide the complete to the complete the complete to the co	A; MOLECULE CYPE: MIXIN A; MOLECULE: A; RESIDUE: 1-60 < CO2> A; Residue: 1-60 < CO2> A; Cross-references: UNIPARC: UPI00001746CC; GB:L05628; NID:g1835658 A; Note: sequence extracted from NCBI backbone (NCBIP:131929)	A;Recession: A37493; PDAD: 33402413; PPAD: 0030343 A;Accession: A37495 A;Atatus: not compared with conceptual translation A:Malacula translation	nce correction.	A; Molecule type: mRNA A; Molecule type: mRNA A; Residues: 'MAPTRSGTGMSRGIPATPTSPSAFRTRSSCGCLVFTSGPV', 50-1531 <co1> A; Cross-references: UNIPARC: UPI00001746CB; GB:L05628; NID:g1835658 A; Cross-references: UNIPARC: UPI00001746CB; GB:L05628; NID:g1835658 A; Cross-references: Small cell lung carcinoma cell line H69AR A; Experimental source: small cell lung carcinoma cell line H69AR A; Experimental source: Small cell lung carcinoma cell line H69AR</co1>	C;Accession: A44251; A37495 R;Cole, S.P.C.; Bhardwaj, G.; Gerlach, J.H.; Mackie, J.E.; Grant, C.E.; Almquist, K.C., Science 258, 1650-1654, 1992 A;Title: Overexpression of a transporter gene in a multidrug-resistant human lung cance A;Reference number: A44231; MUID:93088080; PMID:1360704 A;Accession: A44231 A;Accession: A44231	RESULT 1  DVHUAR  multidrug resistance protein (cell line H69AR) - human  N;Alternate names: multidrug resistance-associated protein (MRP)  C;Species: Homo sapiens (man)  C;Date: 30-Jun-1993 #sequence_revision 05-Dec-1998 #text_change 19-Jan-2001

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KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
              KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
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A;Reference number: JE0336; MUID:99032812; PMID:9813153
A;Accession: JE0336
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-1527 <UCH>
A;Cross-references: UNIPROT:015438; UNIPARC:UPI0000169859; GB:AF083552
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cC;Keywords: ATP
F;1306-1499/Domain: ATP-binding cassette homology <ABC2>
                                                                                                                                                                                         RESULT 2
JE0336
Ganalicular multispecific organic anion transporter - human
C;Species: Homo sapiens (man)
C;Pate: 05-Feb-1999 #sequence revision 05-Feb-1999 #text_change 09-Jul-
C;Accession: JE0336
C;Accession: JE0336
C;Accession: JE0336
C;Accession: JE0336
A;Title: Isolation of a novel human canalicular multispecific organic a
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                45.3%;
3%; Score 4484.5; DB 2;
5%; Pred. No. 4.7e-296;
261; Mismatches 372;
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VGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTI 1491
                                                                                                                                        DLSLHVHGGEKVGIVGRTGAGKSSMTLCLFRILEAAKGEIRIDGLNVADIGLHDVRSQLT
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                                              IIPQDPILFSGTLRMNLDPFGSYSEEDIWWALELSHLHTFVSSQPAGLDFQCSEGGENLS
                                                                         IIPQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----VTDSAGKQLQRQLSSSSSYSGD-----ISRHHNSTAE-LQKABAKKEETWKLMEAD
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A;Molecule type: mRNA
A;Residues: 1-1545 <KOE>
A;Cross-references: UNIPARC:UPI00001746CD; EMBL:X96395; NID:g1507819; PIDN:CAA65259.1;
A;Cross-references: UNIPARC:UPI00001746CD; EMBL:X96395; NID:g1507819; PIDN:CAA65259.1;
R;Buechler, M.; Koenig, J.; Brom, M.; Kartenbeck, J.; Spring, H.; Horie, T.; Keppler, D.
J. Biol. Chem. 271, 15091-15098, 1996
A;Title: cDNA cloning of the maltidrug resistance
A;Reference number: S71839; MUID:96279006; PMID:8662992
A;Accession: S71840
A;Accession: S71840
A;Accession: S71840
A;Accession: S71840
A;Residues: 1415-1429,'VP',1432-1455,'E',1457-1545 <BUE>
A;Cross-references: UNIPARC:UDI00001746CE; EMBL:X98395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Gene: GDB:ABCC2; CMOAT; ABC; MRP2; cMRP; DJS
A;Cross-references: GDB:6089489; OMIM:601107
A;Map position: 10q24-10q24
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology
C;Keywords: ATP; glycoprotein; nucleotide binding; P-loop; transmembrane protein
F;654-837/Domain: ATP-binding cassette homology cABC1>
F;671-678/Region: nucleotide-binding motif A (P-loop)
F;1317-1510/Domain: ATP-binding cassette homology cABC2>
F;1334-1341/Region: nucleotide-binding motif A (P-loop)
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                                             FSGPQILKLLIKFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAV
                                                                                                                                                                                                                                                                                                                                FYVYFSLLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQ 234
                                                                                                                                                                                                                                                                                                                                                                                                                          TTLLATFLIQLERRKGVQSSGIMLT-FWLVALVCALAILRSKIMTALKEDAQVDLFRDIT 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LRGFCSADGSDPLWDWNVTWNTS----NPDFTKCFQNTVLVWVPCFYLWACFPFYFL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FVSPQLLKLLISFASDRDTYLWIGYLCAILLFTAALIQSFCLQCYFQLCFKLGVKVRTAI
                                                                                                                                  PAQPKESSKVDANEEVEALIVKSPQKEWNPS--LFKVLYKTFGPYFLMSFFFKAIHDLMM
                                                                                                                                                                                      PLTLEDVWEVDEEMKTKTLVSKFETHMKRELQKARRALQRRQEKSSQQNSGARLPGLNKN
                                                                                                                                                                                                                                                                                                                                                                                GTWLLVLLIQYSRQWCVQKNSWFLSLFWILSILCGTFQFQTLIRTLLQGD-NSNLAYSCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            YKSRTKRSSTTKLYLAK-QVFVGFLL-ILAAIELALVLTEDSGQATVPAVRYTNPSLY-L 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            YLSRHDRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGI 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LEKFCN-----STFWNSSFLDSPEADLPLCFEQTVLVWIPLGFLWLLAPWQLLHV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MDYTRVIVLDKGEIQEYGAPSDLLQQRGLFYSMAKDAGL 1530
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                                                                                                                                                                                                                                                                                   FFISYGFQILILIFSAFSEN-----NESSNNPSSIASFLSSITYSWYDSIILKGYKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 36.2%; Score 3587; DB 1; 47.5%; Pred. No. 5.3e-235;
                                                                                            EDVEKKKKKSGTKKDVPKSWLMKALFKTFYMVLLKSFLLKLVNDIFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    canalicular -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RNSLKTRNVNSLKEDEELVKGQKLIKKEFIETGKVKFSIYLEYLQAIGLFSIFFIILAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NSTAELQKAEAKKEET-----WKLMEADKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EENGVTGVSGPGKEAKQM------ENGMLVTDSAGKQLQRQLSSSSSSSSGDISRHH
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                                                           WTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAA
                                                                                                                   MNSVAFIGSNLWLSAWTSDSKIFNSTDYPASQRDMRVGVYGALGLAQGIFVFIAHFWSAF
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                                                                                                                                                                                                                     ETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLG
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VDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRG
                                                                                                                                                                                                 DKRPPPDWPSKGKIQFNNYQVRYRPELDLVLRGITCDIGSMEKIGVVGRTGAGKSSLTNC
                                                                                                                                                                                                                                                                               IYRDTLSGDTVGFVLSNALNITQTLNWLVRMTSEIETNIVAVERITEYTKVENEAPW-VT
                                                                                                                                                                                                                                                                                                   | ISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQ 1279
                                                                                                                                                                                                                                                                                                                                                                                              LGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAV
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Best Local Similarity
Matches 721; Conser
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  351
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                                                                                                                                                                                               IVLLILTAFSGPS-----DSTQTPSVTASFLSSITFSWYDRTVLKGYKHPLTLEDVW
                                                                                                                                                                                                                                                                                                 FCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPF--YFLYLSRHDRG
KFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVI
                                                                                VDANEEVEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLI
                                                                                                                                                          SLNK----EDTSEQVVPVLVKN------WKKECAKTRKQPVKVVYS-SKDPAQPKESSK
                                                                                                                                                                                                                                                                               VOHSROWCVRKNSWFLSLFWILSVLCGVFQFQT-LIRALLKDSKSNMAYSYLFFVSYGFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                         FCNS----TFWDLSLL-ESPEADLPLCFEQTVLVWIPLGFLWLLAPWQLYSVYRSRTKRS
                                         LEEAKKKSEKTTKDYPKSW---LIKSLFKTFHVVILKSFILKLIHDLLVFLNPQLLKLLI
                                                                                                                       DIDEGFKTRSVTSKFEAAMTKDLQKARQAFQRRLQKSQRKPEATLHGLNKKQSQSQDVLV
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RESULT 4

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Clabel cular multidrug resistance protein - rat

Clapecies. Rattus norvegicus (Norway rat)

Clabecies. Rattus norvegicus (Norway rat)

Residues. S71339

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                                        35.4%;
Score 3507.5; DB 1; Length 1541;
Pred. No. 1.4e-229;
D1; Mismatches 471; Indels 69;
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KDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLI
                                                                                       RHGEIQFNNYQVRYRPELDLVLKGITCNIKSGEKVGVVGRTGAGKSSLINCLFRILESAG
                                                                                                                                      VVGFVLSNALNITQTLNWLVRMTSEAETNIVAVERISEYINVENEAPW-VTDKRPPADWP
                                                                                                                                                     LVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSWP 1286
                                                                                                                                                                                                                                                     LLATPIAAIIIPPLGLIYPFVQRFYVASSRQLKRLESVSRSPVYSHFNETLLGVSVVIRAF 1168
                                                                                                                                                                                                                                                                                                                                                                                                NVLKEKEVEGQKLIKKEFVETGKVKFSIYLKYLQAVGWWSILFIILFYGLNNVAFIGS
                                     GQIIIDGIDVASIGLHDLRERLTIIPQDPILFSGSLRMNLDPFNKYSDEEVWRALELAHL
                                                  GEIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHL 1406
                                                                                                     QVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAE 1348
                                                                                                                                                                                         EHOORFLAWNEKOIDINOKCVFSWITSNRWLAIRLELVGNLVVFCSALLLVIYRKTLTGD
                                                                                                                                                                                                       EEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVISRHSLSAG
                                                                                                                                                                                                                                          CMATPVFAIIIIPLSILYISVQVFYVATSRQLRRLDSVTKSPIYSHFSETVTGLPIIRAF
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                                                                                                                                                                                                                                                                                                                    HVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVDSMIPEVIKMFMGSLFNVIGACIVI
                                                                                                                                                                                                                                                                                                                                               NLWLSAWTSDSDNLNGTNNSSSHRDMRIGVFGALGLAQGICLLISTLWSIYACRNASKAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VPQQAWIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSG
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                                                                           KVLKKSAYLSAVGTFTWVCTPFLVALCTFAVYVTID-ENNILDAQTAFVSLALFNILRFF
                                                                                                            SSTVGEIVNIMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLNILGPSVLAGVAVMVLM
                                                                                                                                                                                                               EDLWDLNEIDKAENLIPSFMQNLKPRIDEYH-QNIK-----KDPSAALPKN-------
              LAMVAMVYGEAVQCSVSNTRLKEFFAAEEMSPQT----SISHGETDSAIEVENGLFSWSS
                                                                                                                                                                GKTIGAIVNLMSVDIQKIQDMAPTIMLFWSAPLQIFLSIYFLWKFLGVAALAGLVVLILA
                                                                                                                                                                                                                                                                 VEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDT 356
                                                                                                                                                                                                                                                                                                                                              SDLWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDP--AQPKESSKVDANEE
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595 464 536 416

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RESULT 5
B89447
B89447
RB99487
C.; Species: Caenorhabditts elegans
C.; Species: Caenorhabditts elegans
C.; Species: Caenorhabditts elegans
C.; Species: Caenorhabditts elegans
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C.; Species: Caenorhabditts elegans
C.; Species: Caenorhabditts elegans
C.; Species: Caenorhabditts
C.; Accession: E89447
R.; Anonymous, The C. elegans Sequencing Consortium.
Science 282, 2012-2018, 1998
A; Title: Genome sequence of the nematode C. elegans: a platform for investigating biolo
A; Reference number: A75000; MUID: 99069613; PMID: 9851916
A; Note: see websites genome.wustl.edu/gsc/C_elegans/ and www_sanger.ac.uk/Projects/C_el
A; Note: published errata appeared in Science 283, 35, 1999; Science 283, 2103, 1999; A; Science preliminary
A; Status: preliminary
                                                                                                                                                                                                                                                                                                                      A;Gene: F57C12.4
A;Map position: X
C;Superfamily: human multidrug resistance
                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Molecule type: DNA
A;Residues: 1-1494 <STO>
A;Cross-references: UNIPROT:Q20943;
FSLLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEG
                                                                                                                LATFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVY 178
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                                                                                                                                                                                                   33.2%; Score 3289; DB 2; ilarity 47.6%; Pred. No. 9.3e-215; Conservative 239; Mismatches 435;
                                                                                                                                                                                                                                33.2%;
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                                                                                                                                                                                                                                                                                                                             protein cMOAT2; ATP-binding
                                                                                                                                                                                                                                                             Length
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RESULT 6
T21219
Typothetical protein F21G4.2 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #t.
C;Accession: T21219; T24002
R;Mortimore, B.
Rybortimore, B.
submitted to the EMBL Data Library, October 1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQR 775
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                                                                                                                                                                                     LAHLKDFVSALPDKLDHECAEGGENL------SVGQRQLVCLARALLRKTKI
                                                                                                                                                                                                                                                                  SSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRIN 1344
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                                                                                                            PSDLL-QQRGLFYSMAKDAGLV 1531
                                                                                                                                               LVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGA
                                                                                                                                                                          NAHLKPFVKSLQDGLEHKISEGGENLRFAGSKSQKFQLNFSVGQRQLICLARALLRKTKV
                                                                                                                                                                                                                 EADGGSIEIDGINIANLQLEQLRSCLTIVPQDPVLFSGTMKNNLDPFSAYSDSQVWEALE
                                                                                                                                                                                                                            ESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSDEEVWTSLE
                                                                                                                                                                                                                                                       KSWPEKGEISIKNFSVRYRPGLDLVLHGISAHIAPSEKVGIVGRTGAGKSSLTLALFRII 1292
                                                                                                                                                                                                                                                                                                     LSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPP
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                                                                                                                                     LVLDEAAAAVDVETDSLIQKTIREQFKECTVLTIAHRLNTVMDSDRLLVLDKGRVAEFDS
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A;Reference number: Z19392

A;Accession: T21219

A;Accession: T21219

A;Accession: T21219

A;Accession: T21219

A;Molecule type: DNA

A;Residues: 1-1573 <WIL>
A;Cross-references: UNIPROT:093552; UNIPARC:UPI00000823F7; EMBL:Z81016; PIDN:CA

A;Experimental source: clone F21G4

R;Experimental source: clone F21G4

R;Residues: 1-1573 <WIL>
A;Accession: T24002

A;Status: preliminary; translated from GB/EMBL/DDBJ

A;Accession: T24002

A;Status: preliminary; translated from GB/EMBL/DDBJ

A;Residues: 1-1573 <WIL>
A;Residues: 1-1573 <WIL>
A;Cross-references: UNIPARC:UPI00000823F7; EMBL:Z48621; PIDN:CAA88549.1; GSPDB:A;Experimental source: clone R07B1

C;Genetics:
A;Gene: CESP:F21G4.2

A;Map position: X

A;Introns: 21/3; 122/3; 197/3; 276/1; 654/1; 911/1; 1067/1; 1472/2; 1537/2

C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VCALAILR----SKIMTALKEDAQVDLFRDITFYVYFSLLLIQLVLSCFSDRSPL-FSETI
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                                                                                                                     MLNTASPFLVALSTFATFIYIDPKNVLTPEIAFVSLTLFNQLRSPMSQVAELITQTVQVV
                                                                                                                                                                                                                                                                           QVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGT
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                                                      VSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTW--ARSDP-PTLNGITFS
                                                                                                                                                     FTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILFFPLNILFMVISSIVQAS
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VSNRRLKEFLVSEELNVEAIDHR-ARD--NNDVICLKEACLSWESAEHQPVPTLTNISFS
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42.4%; Pred. No. 2.3e-210;
ative 305; Mismatches 490;
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RESULT 7
T42216
multidrug resistance-associated protein hom C;Species: Rattus norvegicus (Norway rat) C;Date: 03-Dec-1999 #sequence_revision 03-D C;Accession: T42216
R;Hirohashi, T; Suzuki, H.; Ito, K.; Ogawa Mol. Pharmacol. 53, 1068-1075, 1998
A;Title: Hepatic expression of multidrug re A;Reference number: Z22081; MUID:98279126; A;Accession: T42216
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        of multidrug resistance-associated protein-like MUID:98279126; PMID:9614210
                               Ogawa,
                                               03-Dec-1999
                                                              homolog
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                               Kume,
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A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-1502 <HIR>
A;Cross-references: UNIPROT:088269; UNIPARC:UPI000012F57A;
A;Experimental source: strain Sprague-Dawley; liver
C;Superfamily: human multidrug resistance protein cMOAT2; P
                      32.3%;
Score 3195.5; I
Pred. No. 2.2e-2
90; Mismatches 5
                                            DB ·2;
                                          Length
                                                                                   ATP-binding
                                                                                                                                EMBL: AB010466; NID: g3242457
                                            1502;
                                                                                       cassette
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290;

Indels

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Gaps

75 φ

VVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEP DLATYINMIWSAPLQVILALYLLMLNLGPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHM LQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTVGEIVNLMSVDAQRFM ESILHLNGLWLLFLWIIVCFVYLWQLLG AIWRVFRSTFILGTLSLVISDAFRFAVPKLLSLFLEFMGDLESSAWTGWLLAVLMFLSAC VLYKTEGPYELMSEEEKAIHDLMMESGEQILKLLIKEVNDTKAEDWQGYEYTVLLEVTAC QLEREWRRN----VLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEALIVKSPQKEWNPSLFK VLGFALILLYTFNAAVPLWRIHRGMPQAPELLIHPTVWLTTMSFATFLIHMERKKGVRAS ALGFILMIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLATFLIQLERRKGVQSS WNQTEQEPVAYHLLNLCFLRAAGSWVPPMYLWVLGPIYLLYIHRHGCCYLRMSRLFKIKM VVGPVGAGKSSLLSALLGELLKVEGSVSIEGSVAYVPQEAWVQNTSVVENVCFRQELDLP LQTLFEQQYMYRVKVLQMRLRTAITGLVYRKVLVLSSGSRKSSAAGDVVNLVSVDVQRLV -----PSELPGHKGHSGM--GTPETEAFL--QPERSQRGPLLR SV 909 778 795 718 675 599 615 555 435 359 299 196 195 139 135 79 256

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RESULT 8

$51863

cadmium resistance protein YCF1 - yeast (Saccharomyces cerevisiae)

N;Alternate names: protein YD9302.11c; protein YDR135c

C;Species: Saccharomyces cerevisiae

C;Date: 10-Sep-1999 #sequence revision 10-Sep-1999 #text_change 09-Jul-2004

C;Accession: $51863; A55352; $50233

R;Oliver, K.; Harris, D.

submitted to the EMBL Data Library, February 1995

A;Reference number: $51853

A;Accession: $51863

A;Accession: $51863
A;Gene: SGD:YCF1; MIPS:YDR135c
A;Cross-references: SGD:S0002542; MIPS:YDR135c
A;Map position: 4R
C;Function: qr
C;Function: required for cadmium resistance
A;Description: required for cadmium resistance
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology
                                                                                                                                                                                                                  A;Molecule type: DNA
A;Residues: 1-1515 <OLI>A;Residues: 1-1515 <OLI>A;Residues: 1-1515 <OLI>A;Residues: 1-1515 <OLI>A;Cross-references: UNIPROT:P39109; UNIPARC:UPI000013A67B; EMBL:Z48179; A;Szczypka, M.S.; Memmie, J.A.; Moye-Rowley, W.S.; Thiele, D.J.
J. Biol. Chem. 269, 22853-22857, 1994
A;Title: A yeast metal resistance protein similar to human cystic fibros A;Reference number: A55352; MUID:94357936; PMID:7521334
A;Accession: A55352
                                                                                                                     A;Status: nucleic acid sequence not shown
A;Molecule type: DNA
A;Residues: 1-679, 'R',681-1515 <SZC>
A;Cross-references: UNIPARC:UPI0000168F06; GB:L35237; NID:g556464; PIDN:AAA50353.1; PID
C;Genetics:
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                                                                                                                                                                                                                                                                                                                                                       WENTGPSVIAGVAVMVIMVPVNAVMAMKTKTYQVAHMKSKDNRIKLMNBILNGIKVLKLY
                                                                                                                                                                                                                                                                                                                                                                                                                          LFRVKGFATVHGSVAYVSQVPWIMNGTVKENILFGHRYDAEFYEKTIKACALTIDLAILM
                        MDKVEGHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEILP
                                                                                  NIGDVAINIGDDATFLWORKPEYKVALKNINFOAKKGNLTCIVGKVGSGKTALLSCMLGD
                                                                                                                                                             TTDLVFPALTLENLLSFPLMIIPMVLNSFIEASVSIGRLFTFFTNEELQPDSVQRLPKVK
                                                                                                                                                                               DAQTAFVSLALFNILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKD
                                                                                                                                                                                                                                          AWEKPYREKLEEVRNNKELKNLTKLGCYMAVTSFQFNIVPFLVSCCTFAVFV-YTEDRAL
                                                                                                                                                                                                                                                                AWELAFKDKVLAIR-QEELKVLKKSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNIL
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                                                                                                                     GGGTNSITV-RNATFTWARSD--PPTLNGITFSIPEGALVAVVGOVGCGKSSLLSALLAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----NPSLSWAICRTFGSKMLLAAFFKAIHDVLAFTQPQLLRILIKFVTDYNS
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500

559 577

754

679

739

694 619 380

398 320 355

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C;Keywords: ATP; nucleotide binding; P-loop; transmembrane pro F;287-308/Domain: transmembrane #status predicted <TM1> F;345-366/Domain: transmembrane #status predicted <TM2> F;421-442/Domain: transmembrane #status predicted <TM2> F;446-467/Domain: transmembrane #status predicted <TM3> F;446-467/Domain: transmembrane #status predicted <TM4> F;446-467/Domain: transmembrane #status predicted <TM5> F;646-829/Domain: transmembrane #status predicted <TM6> F;646-829/Domain: hTP-binding cassette homology <ABC1> F;646-829/Domain: transmembrane #status predicted <TM7> F;995-1016/Domain: transmembrane #status predicted <TM9> F;1068-1088/Domain: transmembrane #status predicted <TM10> F;1092-1113/Domain: transmembrane #status predicted <TM10> F;1179-1200/Domain: transmembrane #status predicted <TM10> F;11208-1229/Domain: transmembrane #status predicted <TM12> F;1289-1483/Domain: transmembrane #status predicted <TM12> F;1289-1433/Domain: aTP-binding cassette homology <ABC2> F;1306-1313/Region: nucleotide-binding motif A (P-loop)
                                                                                                                                                                                                                                                                                                                                                                                                    GIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS-----LLLIQLVLSC 190
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                                                                                                                                                                                                                                                                                                                           TVLLFYWLFETFGNFAKLINILIRHTYEG------IWYSGQTGFILTLFQVITC
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                                                                                 SDLWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVE
                                                                                                                                                           ASILLIEALPKKPLMPHQHIHQTLTRRKPNPYDSANIFSRITFSWMSGLMKTGYEKYLVE
                                                                                                                                                                                                        FS-----DRSPL-----FSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EIAF----VSLASLNISKEEAEN---FTIVSQYASTMLSLFVALALHWIEYDR--SVVAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ALGELLWIVCWADLEYSEWERSRGIFLAPVFLVSPTLLGITTLLATFLIQLERRKGVQSS 135
28.7%; Score 2838; DB 1; 40.3%; Pred. No. 4.5e-184;
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764/2;

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RESULT 9
T20434
hypothetical protein E03G2.2 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text.
C;Accession: T20434
R;McMurray, A.
submitted to the EMBL Data Library, November 1995
A;Reference number: 219275
A;Accession: T20434
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-1398 <MIL>
A;Residues: 1-1398 <MIL>
A;Cross-references: UNIFROT:Q19048; UNIPARC:UPI000007736/
A;Experimental source: clone E03G2
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                                                                                                                                                                                                                                           ASEGNIVIDNIAINEIGLYDLRHKLSIIPQDSQVFEGTVRENIDPINQYTDEAIWRALEL
                                                                                                                                                                                                                                                                                                            TAGMVGLSLSYALQITQTLNWIVRMTVEVETNIVSVERIKEYADLKSEAPLIVEGHRPPK
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           UNIPARC: UPI0000077364;
                                                                                 #text_change
          EMBL: Z68113;
                                                                                   09-Jul-2004
          PIDN: CAA92148
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EENGVTGVSGPGKEAKQMENGMI/VTDSAGKQLQRQLSSSSSYSGDISRHHNSTABIQKAE
                                                                                                          NKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDA
                                                                                                                               AQTAFVSLALFNILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDG
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                                                                                                                                                                                                                                  PNIAFVSLSLFNLLRGPLMMAAELVAQTVQLVVSNKRVRTFLCEKEVDTAAIDKE-IRGE
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GEENSDILPGSIASGSRMSRLSR-LSK-----ISRKKSKSSIVEK--

804

878

728

761

818

899 758 809 698

548 638 489 578 429 518 458

369

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C;Genetics:
A;Gene: CESP:E03G2.2
A;Map position: X
A;Introns: 73/3; 113/3; 176/1; 216/1; 258/2; 384/3; 470/3; 549/1; 644/
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding
                                                                                                                                                                                                                                                                                                                                                                                                                h 27.6%; Score 2732; DB 2;
Similarity 41.1%; Pred. No. 6.5e-177;
91; Conservative 287; Mismatches 472;
                                                                                                                                                                                                                                               LALLIATNEV---
                                                                                                                                                                                                                                                                                                                                                                   ITTLLATFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKED--AQVDLFRD
QFANPTFLNYLILF1ETPNAPLINGIGLAVGLFLAGQ1KSLFMVTYF1AMTRVGAK1QTM
                       MFSGPQILKLLIKFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTA
                                                                             KAPLIGTENNYGAVNLDDKDRVIVQ------PSVIVTLMQIMKWEILGGSFIKFLSDLL
                                                                                                        KDPAQPKESSKVDAN-EEVEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLM
| | :: :: | :: | |: | :: | |: |
                                                                                                                                                                IVRGYRQPLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKV------VYSS
                                                                                                                                                                                                                                                                                                                                -RRAGIHSSGPLFCIWMLFAVAAVPEFYQWMTTGSQPELVARIDFFRY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 1398;
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Qy 115 ITTLLATFLIQLERRKGVQSSGIMLTFWLVA-LVCALAILRSKIMTALKEDAQVDLFRDI 173 	Query Match 25.7%; Score 2540; DB 2; Length 1478; Best Local Similarity 38.7%; Pred. No. 2.3e-164; Matches 560; Conservative 285; Mismatches 509; Indels 92; Gaps 21;	A;Gene: SPDB:SPAC3F10.11c  A;Map position: 1  C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology  C;Keywords: ATP; transmembrane protein	A;Residues: 1043-1286,'L',1288-1300,'Y',1302,'H',1304-1310,'H',1312-1466,'V',1468-1 A;Cross-references: UNIPARC:UPI000006C641; EMBL:D89231; NID:g1749669; PIDN:BAA13892 A;Experimental source: strain PR745	A;Reference number: 217323; MUID:98162722; PMID:9501991 A;Accession: T43244 A;Accus: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: mBNA A;Molecule type: mBNA	A;Experimental source: strain 972h(-); cosmid c3F10  A;Experimental source: strain 972h(-); cosmid c3F10  R;Yoshioka, S.; Kato, K.; Nakai, K.; Okayama, H.; Nojima, H.  DNA Res. 4, 363-369, 1997  A.Title. Identification of coen reading frames in Schizogarcharomyces nombe cDNAs	A;ACCEBELUI: 130/12 A;Status: translated from GB/EMBL/DDBJ A;Molecule type: DNA A;Molecule type: DNA A;Residues: 1-1478 <awir> A;Residues: 1-1478 <awir> A;Residues: 1-1478 AWIR&gt;</awir></awir>	R;Murphy, L; Harris, D; Barrell, B.G.; Rajandream, M.A.; Walsh, S.V. submitted to the EMBL Data Library, February 1996 A;Reference number: Z21807	N;Alternate names: metal resistance protein homolog C;Species: Schizosaccharomyces pombe C;Date: 03-Dec-1999 #sequence revision 03-Dec-1999 #text_change 09-Jul-2004 C.Date: 03-Dec-1999 #sequence revision 03-Dec-1999 #text_change 09-Jul-2004	RESULT 10 T38712 ABC transporter SDACIEIO 11c [similarity] - fission veast (Schizosaccharomyces nomb	Qy 1475 QFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQR-GLFYSMAKDAGLV 1531	Qy 1415 LPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRT 1474       :	Qy 1355 GINIAKIGLHDLRFKITIIPQDPVLFSGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSA 1414	Qy 1295 FRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIID 1354	Qy 1235 SYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVE 1294      :        : :   :  :  :     :	Qy 1176 HQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVISRHS-LSAGLVGLSV 1234 ::  ::	Qy 1116 AIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFI 1175	Qy 1056 ILRSPMSFFERTPSGNLVNRFSKELDTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIA 1115
D 8			478 < Qy .1; F Db	Qy Db	Qy da	Qy	Qy Db	Qy Db	Qy Db	Qy	Qy db	Qy Db	QY dd	Qy	Qy Db	Db Qy	Qy
1113 DMEDTFISENDIRVDTWHRIWFLYFSSNRWQAIRVEAIGALVVESSAFFGVLSAVRGNEN 1172	1109 LHAFF HAALLEFELGLEFF VERETWASSKOLKKLESVSKSEVISHEKBLIGVSVIKKE 1100	1049 HVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVDSMIPEVIKMFMGSLFNVIGACIVI 1108     :: ::  :         ::      ::	990 LASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMAVSI-GGILASRCL 1048 	933 ELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFMCNHVSA- 989	878 AEENGVTGVSGPGKEAKOMENGMLVTDSAGKQLQRQLSSSSSYSGDISRHHNSTA 932	819 NKTRILVTHSNSYLPQVDVIIVMSGGKISEMGSYQELLAR-DGAFAEFLRTYASTEQEQD 877 :     : ::   :           :   :   :	759 TEIGEKGVNLSGGQKORVSLARAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLK 818   :    ::       ::         ::	699 EGHVAIKGSVAYVÞQQAWIQNDSLRENILFGCQLEEÞYYRSVIQACALLÞDLEILÞSGDR 758 	643 SITVRNATFTWARSDPPTLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKV 698 : :     ;   ;   ;   ;   ;   ;   ;   ;	583 FVSLALFNILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTN 642 	525 KDKVLAIRQ-EELKVLKKSAYLSAVGTFTWVCTPFLVALCTFAVYVTI-DENNILDAQTA 582	465 SVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAF 524  :	405 RKALVITNSARKSSTVGEIVNIMSVDAQREMDLATYINMIWSAPLQVILALYLLWINIGP 464   :  ::::  :  :  :           ::        ::     :     ::	349 LIKEVNDTKAPDWQGYFYTVLLEVTACLQTLVLHQYFHICEVSGMRIKTAVIGAVY 404 :-	289 SKVDANEEVEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKL 348	229 VRGYROPLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTRKOPVKVVYSSKDPAQPKES 288	174 TFYVYFSLLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLI 228

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A;Residues: 1-1623 <ROUS
A;Cross-references: UNIPROT:064590; UNIPARC:UPI000009F2D5; EMBL:AC003096; NID:g3132469;
A;Experimental source: cultivar Columbia
R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.;
M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L.
euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J.
Nature 402, 761-768, 1999
A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.
A;Reference number: A84420; MUID:20083487; PMID:10617197
A;Recession: D84759
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-1623 <STO>
A;Cross-references: UNIPARC:UPI000009F2D5; GB:AE002093; NID:g3132479; PIDN:AAC16268.1; C;Genetics:
A;Cross-references: UNIPARC:UPI000009F2D5; GB:AE002093; NID:g3132479; PIDN:AAC16268.1; C,Genetics: At2g34660; T29F13.13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABC transporter AtMRP2 [imported] - Arabidopsis thaliana

M;Alternate names: multidrug-resistance protein homolog T29F13.13

C;Species: Arabidopsis thaliana (mouse-ear cress)

C;Date: 12-Feb-1999 #sequence revision 12-Feb-1999 #text_change 09-Jul-2004

C;Accession: T01369; D84759

R;Rounsley, S.D.; Lin, X.; Ketchum, K.A.; Crosby, M.L.; Brandon, R.C.; Sykes, submitted to the EWBL Data Library, May 1998

A;Description: Arabidopsis thaliana chromosome II BAC T29F13 genomic sequence.
A;Reference number: Z14179

A;Status: translated from GB/EMBL/DDBJ

A,Molecule type: DNA

A,Molecule type: DNA

A,Molecule type: DNA

A,Molecule type: DNA

A,Molecule type: DNA

A,Molecule type: DNA

A,Molecule type: DNA
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A;Introns: 110/3; 170/2; 183/3; 236/1; 274/2; 301/2; 309/3; 328/3; 350
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding
F;1259-1452/Domain: ATP-binding cassette homology <ABC>
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 GVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS---
                                        HKVERFCLRSRLYNYFLALLAAYATAEPLFRL---IMGISVLDFDGPGLPPF--
                                                                                                                                             FYLWACEPE-YELYLSRHDRGYIQMTPLNKTKTALG---FLLWIVCWADLEYSFW-----
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35.2%; Pred. No. 3.66
Live 274; Mismatches
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3.6e-153;
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                                                         DRTVAVFVNMFMGQVSQLLSTVVLIGIVSTLSLWAIMPLLVLFYGAYLYYQNTAREVKRM
                                                                                       DSMIPEVIKMFMGSLENVIGACIVILLATPIAAIIJPPLGLIYFFVQRFYVASSRQLKRL 1143
                                                                                                                              FGQVLVTLTNSYWLIMSSLYAAKKLHDNMLHSILRAPMSFFHTNPLGRIINRFAKDLGDI 1027
                                                                                                                                                              ISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTV 1083
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----RIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTW-ARSDPPTLNGITFSIP
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•	유 성	용 성	B 8	유 왕	Query Ma Best Loc Matches	A;Cros C;Gene A;Map C;Supe	A;Acce A;Stati A;Mole A;Resi	A; Auth ker, M A; Titl A; Refe	Nature A; Auth C.A.; Rizzo.	C;Acce R;Theo Chin, ansen,	D86428 glutathione S C;Species: Ar C;Date: 02-Ma	RESULT	유 상	P 5	} B	8	P Q	р <u>қ</u>	문	8 8	망
l Qy	QY 184 IQLVLSCFSDRSPLFSETIHD	135 SGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFSLLL 183    :::	95 ERSRGIFLAPVFLVSPTLLGITTLLATFLIQLERRKGVQS 134   :      :  :  :      :    Db 68 LRSKWFSYFLALLAAYATAEPLFRLVMRISVLDLDGAGFPPYEAFMLVLEAFAWG 122	47 WACEPF-YFLYLSRHDRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFW 94	1622; 193; Gaps 31;	-references: UNIPROT:Q9C8G9; UNIPARC:UPI000009CF47; GB:AE005172; NID:g11055814; Fdcs: ics: Dbosttion: 1 Dbosttion: 1 Dbostion: 1 Dbost CMOAT2; ATP-binding cassette homology	sion: D86428 Qy s: preliminary ule type: DNA Db	A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W. A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis. A;Reference number: A86141; MUID:21016719; PMID:11130712	Qy 408, 816-820, 2000 Qy 408, 816-820, 2000 Qy 408, By 16-820, 2000 Qy 1.1.; Jin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Khaykin, E.; Kim, C. Db M.; Rooney, T.; Rowley, D.; Sakano, H.	l, s.; W Creasy,	Oy  Oy  Oz-Mar-2001 #sequence revision 02-Mar-2001 #text change 09-Jul-2004  Oz-Mar-2001 #sequence revision 02-Mar-2001 #text change 09-Jul-2004		1499 VLDKGEIQEYGAPSDLLQQRGLFYS-MAKDAG 1529	1388 SLSRALLRRSKILVLDEATAAVDVRTDALIQKTIREEFKSCTMLIIAHRLNTIIDCDKIL 1447  Qy	328 LFSGTVRFNLDPGEHNDADLWESLERAHLKDTIRRNPLGLDABSVESTERSVGQRQLL 1387	LFSGSLRNNLDFFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLV 1438	1319 GGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITTIPQDPV 1378	1208 NAVERVGNYIEIPPEAPPVIENNRPPPGWPSSGSIKFEDVVLRYRPQLPPVLHGVSFFIH 1267  QY	1207	ECVGNCIVLEAALEAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNI 1258	1088 DSISRSPVYAOFGEALNGLSTIRAYKAYDRMADINGRSMDNNIRFTLVNMGANRWLGIRL 1147 (V
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<pre>288 PQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESA</pre>	228 GLVGLSVSYSLQVTTYLNWLVRWSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSW 	1/3 KEIRQSULKVIDENQASIESIVANKMIAVKIBUVONULTAALEKVITTOOTA 1227 112 RMABINGRSMDNNIRFTLVNMAANKWLGIRJBVLGGLMVWLTASLAVMQNGKAANQQAYA 1171	1.3 FLAMILIEFUGILIEF VORE I VASSRŽIAKLISŠVOKSE V JERBOLIJISVOSIKALIJOVOVIKAE EDEZE 	US3			380 ENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQK 		760 EIGEKGVNLSGGOKORVSLARAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKN     :   :	700 GHVAIKGSVAYVPQQAWIQNDSLRENIILFGCQLEEFYYRSVIQACALLFDLEILFSGDRT 	42 NSITVRNATFTW-ARSDPPTLNGITFSIPEGALVÄVVGQVGCGKSSLLSALLAEMD-KVE 	:  ::     :  :  :  :  :  :  :  :  :		324 FKDKVLAIRQEELKVLKKSAY	64 PSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLMNBILNGIKVLKLYAWELA		121 LLLNELLKSM-QLNEPAWIG	100 FAT   100	1	1	124 ITGLIVRGYRQPLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPA 283

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R;Theologia, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; A Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewa ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; K C.A.; Li, J.H.; Li, Y.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; War Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H., P.; Southwick, A.M.; Sun, H.; Ta A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Ta A;Tile: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUID:21016719; PMID:11130712
A;Accession: B86428
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-1495 <STO>
A;Residues: UNIPROT:Q9C8H0; UNIPARC:UPI00000482FF; GB:AE005172; NID:g11055
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C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: E86428
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23.5%; Score 2326; DB 2;
larity 34.3%; Pred. No. 3e-149;
Conservative 314; Mismatches 566;
                                                                                                                                                                                                                                                                                                                                                                                      ---HNTKAQIYVLRKKYYNCVLG-LLACYCVVEPVLRLVMGISLFDMDEETDFPPF
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                                                                                                                                                                                                                                                          SRHSLS----AGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAP 1275
                                                                                                                                                                                                                                                                                                             GLSSIRAYKAYDRMAKINGKSMDNNIRFTLANTSSNRWLTIRLETLGGVMIWLTATFAVL
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;Introns: 63/3; 120/3; 222/3; 271/3; 372/3; 451/1; 636/1; 687/3; 778/3;
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                                               SDEDVADEEAESSEASVTPPVPVLENG----DNGAIEKSSQIDRTNSHFSEKSR-----
                                                                                            EQEQDABENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSSSSGDISRHHNSTA
                                                                                                                                      PDGLLRSKTRVLVTHNLQYTKYVDTIYVIEDGQIVQHGSFEDIAYVDGPFGR-LWSECEN
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42.5%; Pred. No. 1.7e-148;
1tive 228; Mismatches 381;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    probable membrane protein YLL015w - yeast (Saccharomyces cerevisiae)
N;Alternate names: hypothetical protein A255; hypothetical protein L1313
C;Species: Saccharomyces cerevisiae
C;Date: 10-Sep-1999 #sequence revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: S64757; S64763; PS0041; S69391; S70560
R;Miosga, T.; Zimmermann, F.K.
submitted to the Protein Sequence Database, May 1996
A;Reference number: S64743
                 A;Molecule type: DNA
A;Residues: 1-1559 <GGP>
A;Cross-references: UNIPARC:UPI0000126A9C; EMBL:Z73120; NID:g13
A;Cross-references: UNIPARC:UPI0000126A9C;
A;Experimental source: strain S288C
R;Boy-Marcotte, E.; Damak, F.; Camonis, J.; Garreau, H.; Jacque
Gene 77, 21-30, 1989
A;Title: The C-terminal part of a gene partially homologous to
A;Reference number: PS0041; MUID:89306677; PMID:2545538
A;Accession: PS0041
                                                                                                                                                                                                                                                                                    A;Molecule type: DNA
A;Residues: 1-1559 «MIO»
A;Cross-references: UNIPROT:P14772; UNIPARC
A;Experimental source: strain S288C
R;Goffeau, A.; Purnelle, B.
submitted to the Protein Sequence Database,
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A; Accession: S64763
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A;Cross-references: UNIPARC:UPI00001746CF
A;Otoss-references: UNIPARC:UPI00001746CF
A;Otoss-references: UNIPARC:UPI00001746CF
A;Pote: the authors translated the codon CAG for residue 248 as His
R;Purnelle, B.; Goffeau, A.
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A; Map position: 12L
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7,1019-1115/Domain: transmembrane #status predicted <TM10>
7,1118-1134/Domain: transmembrane #status predicted <TM11>
7,1212-1228/Domain: transmembrane #status predicted <TM12>
7,1319-1529/Domain: transmembrane #status predicted <TM12>
7,1319-1529/Domain: ATP-binding cassette homology <ABC2>
7,1319-154/Region: nucleotide-binding motif A (P-loop)
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Best Local Similarity
Matches 574; Conser
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   SISKEFKANWELEKWLNRN----
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                                                           KESSKVDANEEVEALIVKSPOKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPOI 345
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                                                                                                                                                                                       IVRGYROPLEGSDLWSLNK--EDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAOP 285
                                                                                                                                                                                                                                               -LPNSVAIFIY-DLCIFEPI----NELSEYYKKNGWYP-----PVHVLSYITFIWNNKL
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larity 35.1%;
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                                                                                                                              NKKIKDPNQLPLPPVDLNIK
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Pred. No. 4.4e-147;
2; Mismatches 541;
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-SIWRAIWKSFGRTISVAMLYETTSDLLSVVQPQF
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                                                                     EFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIII
                                 EFKNYSTKYRENLDPVLNNINVKIEPCEKVGIVGRTGAGKSTLSLALFRILEPTEGKIII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DSVKKTAQKAEKTEVGRVKTKIYLAYIKACGV-LGVVLFFLFMILTRVFDLAENFWLKYW 1004
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LFGHKFDQDYYDLTIKACQLLPDLKILPDGDETLVGEKGISLSGGQKARLSLARAVYSRA CVVGRVGAGKSTFLKAILGQLPCMSGSRDSIPPKLIIRSSSVAYCSQESWIMNASVRENI LFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNA AVVGQVGCGKSSLLSALLAEMDKVEGH-----VAIKGSVAYVPQQAWIQNDSLRENI ERALPAIEMNNITFLWKSKEVLTSSQSGDNLRTDEESIIGSSQIALKNIDHFEAKRGDLV 786 728 726 899

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NGMLVTDSAGKQLQRQLSSSSSSSSSSTSGDISRHHNSTAELQKAEAKKEETWKL----------MEADKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFM-CNHVSALASNYWLSLW 999 945 947

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VFNMFLVVIYIYYQTFYIVLSRELKRLISISYSPIMSLMSESLNGYSIIDAYDHFERFIY IIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIH 1176

QSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVI---SRHSLSAGLVGLS 1233 1182

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MEDLINE=21163848; PubMed=11266082;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=Delevon-17-18;
TmoId=P33527-5; Sequence=VSP_000037, VSP_000038;
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SUBCELLULAR LOCATION:
ALTERNATIVE PRODUCTS:
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IsoId=P33527-8; Sequ
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Y: Lung, testis and peripheral blood
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D Q9UQ99 HUMAN PRELIMINARY; PRT; 1515 AA.

C Q9UQ99;

T 01-MAY-2000 (TrEMBLrel. 13, Created)

T 01-MAY-2000 (TrEMBLrel. 26, Last annotation update)

T 01-MAY-2004 (TrEMBLrel. 26, Last annotation update)

Multidrug resistance protein (Fragment).

Mame=MRP;

Homo sapiens (Human).

EUKaryota; Metazoa; Chordata; Craniata; Vertebrata; EU

Mammalia; Eutheria; Euarchontoglires; Primates; Catarr
 -i- SIMILARITY: Belongs to EMBL; AF022853; AAB83979.11 EMBL; AF022828; AAB83979.11 EMBL; AF022828; AAB83979.11 EMBL; AF022829; AAB83979.11 EMBL; AF022831; AAB83979.11 EMBL; AF022831; AAB83979.11 EMBL; AF022835; AAB83979.11 EMBL; AF022837; AAB83979.11 EMBL; AF022837; AAB83979.11 EMBL; AF022841; AAB83979.11 EMBL; AF022841; AAB83979.11 EMBL; AF022849; AAB83979.11
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MEDILINE=98008927, Pubmed=9344662; DOI=10.1006/geno.1997.4950;
Grant C.E., Kurz E.U., Cole S.P.C., Deeley R.G.;

"Analysis of the intron-exon organization of the human multid resistance protein gene (NKP) and alternative splicing of its Genomics 45:368-378(1997).
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 3; AAB83979.1; -; Genomi
AAB83979.1; JOINED;
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SEQUENCE 1515 AA; 169853 MW;
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R GO; GO:0016087; F:ATPase activity; IEA.

R GO; GO:0045266; F:ATPase activity; coupled to transmembrane

R GO; GO:004566; F:nucleotide binding; IEA.

R GO; GO:000166; F:nucleotide binding; IEA.

R GO; GO:0000166; F:nucleotide binding; IEA.

R GO; GO:0000166; F:ransport; IEA.

R GO; GO:0000160; F:transport; IEA.

R InterPro; IPR001527; ABC membrane 1.

R InterPro; IPR001393; ABC TM transpt.

R InterPro; IPR003439; ABC TM transpt.

R InterPro; IPR003439; ABC TM transp like.

R InterPro; IPR003292; MRP assoc.

R InterPro; IPR003292; MRP assoc.

R InterPro; IPR00719; Prot kinase.

Pfam; PF00066; ABC transporter; 2.

R Pfam; PF00005; ABC transporter; 2.

R ProDom; PD000006; ABC transporter; 2.

R ProDom; PD000006; ABC transporter; 2.

R PROSITE; PS50929; ABC TMIF; 2.

R PROSITE; PS50929; ABC TRANSPORTER 1; 2.

R PROSITE; PS5083; ABC TRANSPORTER 1; 2.

R PROSITE; PS5083; ABC TRANSPORTER 2; 2.

R PROSITE; PS5083; ABC TRANSPORTER 2; 2.

R PROSITE; PS5083; ABC TRANSPORTER 3; 2.

R PROSITE; PS5083; ABC TRANSPORTER 3; 2.

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R PROSITE; PS5083; ABC TRANSPORTER 3; 2.

R PROSITE; PS5083; ABC TRANSPORTER 3; 2.
                                                                                                                                     Query Match 77.7%;
Best Local Similarity 97.5%;
Matches 1493; Conservative
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P Perry W.L. III, Godinot N.;

A Perry W.L. III, Godinot N.;

P Perry W.L. III, Godinot N.;

A Perry W.L. III, Godinot N.;

A Perry W.L. III, Godinot N.;

A Perry W.L. III, Godinot N.;

B P POBTIC STATE ENDING TO THE ABC transporter family.

C -!- SIMILARITY: Belongs to the ABC transporter family.

R EMBL; AY146673; AAN65349.1; -; mRNA.

R GO; GO:001607; C:integral to membrane; IEA.

R GO; GO:001607; C:integral to membrane; IEA.

R GO; GO:000524; F:ATP binding; IEA.

R GO; GO:0001687; F:ATPase activity; IEA.

R GO; GO:0001686; F:nucleotide binding; IEA.

R GO; GO:0000166; F:nucleotide binding; IEA.

R GO; GO:0006810; P:transport; IEA.

R GO; GO:0006810; P:transport; IEA.

R GO; GO:0006810; P:transport; IEA.
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01-JUN-2003 (TrEMBLrel. 24, La
01-MAR-2004 (TrEMBLrel. 26, La
Multidrug resistance protein 11
Name-MRP1;
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MEDLINE=22544876; PubMed=12657726;

Godinot N., Iversen P.W., Tabas L., Xia X.,

Dantzig A.H., Perry W.L.;

"Cloning and functional characterization of
associated protein (MRP1/ABCC1) from the cy
Mol. Cancer Ther. 2:307-316(2003).

[2]
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01-JUN-2003 (
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; 
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; 
Cercopithecidae; Cercopithecinae; Macaca.
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20; Mismatches
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                                                                                     DTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQL 1140
                                                                                                                                                   ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL 1080
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                               KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
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6480_MACFA PRELIMINARY;
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Q1-JUN-2003 (TrEMBLrel. 24, Cr
01-JUN-2003 (TrEMBLrel. 24, La
01-MAR-2004 (TrEMBLrel. 26, La
01-MAR-2004 (TrEMBLrel. 26, La
Multidrug resistance protein 1
Name=MRP1;
                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-22544876; PubMed=12657726; Godinot N., Iversen P.W., Tabas L., Xia X Dantzig A.H., Perry W.L.; "Cloning and functional characterization associated protein (MRP1/ABCC1) from the Mol. Cancer Ther. 2:307-316(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Macaca fascicularis (Crab eating macaque)
Eukaryota; Metazoa; Chordata; Craniata; V
Mammalia; Eutheria; Euarchontoglires; Pri
Cercopithecidae; Cercopithecinae; Macaca.
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Primates; Catarrhini;
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PROSITE; PS50893; ABC_TRANSPORTER_2; 2.
PROSITE; PS001077; PROTEIN KINASE_ATP; UNKNOWN_1.
ATP-binding; Nuclectide-binding; Repeat.
ATP-binding; Nuclectide-binding; Repeat.
1531 AA; 171701 MW; 168712B8CCZDZB89
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                                                                          MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM
                                                                                                                                AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGFKGMLKNKTRILVTHSMSYLPQVDVIIV
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                                      LYTDSAGKOLORQLSSSSSYSGDISRHHNSTABLOKAEAKKEETWKLMEADKAQTGOVKL
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                        LVTDSAGKQLQRQLSSSSSYSGDVSRQHNSTAELQKDGAKKEETWKLMEADKAQTGQVKL
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Pred. No. 0;
L8; Mismatches
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WEDLINE-9800827; PubMed=9344662; DOI=10.1006/geno.1997.4950;
A Grant C.E., Kurz E.U., Cole S.P.C., Deeley R.G.;
T' "Analysis of the intron-exon organization of the human multidrug-
T' resistance protein gene (MRP) and alternative splicing of its mEN

L' Genomics 45:368-378(1997).

L' SIMILARITY: Belongs to the ABC transporter family.

EMBL; AF02285; AAB83980.1; -, Genomic DNA.

REMBL; AF022824; AAB83980.1; JOINED; Genomic DNA.

REMBL; AF022825; AAB83980.1; JOINED; Genomic DNA.

REMBL; AF022826; AAB83980.1; JOINED; Genomic DNA.

REMBL; AF022826; AAB83980.1; JOINED; Genomic DNA.

REMBL; AF022828; AAB83980.1; JOINED; Genomic DNA.

REMBL; AF022828; AAB83980.1; JOINED; Genomic DNA.

REMBL; AF022822; AAB83980.1; JOINED; Genomic DNA.

REMBL; AF022832; AAB83980.1; JOINED; Genomic DNA.

REMBL; AF022832; AAB83980.1; JOINED; Genomic DNA.

REMBL; AF022834; AAB83980.1; JOINED; Genomic DNA.

REMBL; AF022834; AAB83980.1; JOINED; Genomic DNA.

REMBL; AF022834; AAB83980.1; JOINED; Genomic DNA.

REMBL; AF022834; AAB83980.1; JOINED; Genomic DNA.

REMBL; AF022834; AAB83980.1; JOINED; Genomic DNA.
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Mammalia; Eutheria;
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                                   TLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSD
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REMBL; AF022844; AAB83981.1; JOINED; Genomic_D;

REMBL; AF022843; AAB83981.1; JOINED; Genomic_D;

REMBL; AF022844; AAB83981.1; JOINED; Genomic_D;

REMBL; AF022843; AAB83981.1; JOINED; Genomic_D;

REMBL; AF022834; AAB83981.1; JOINED; Genomic_D;

REMBL; AF022834; AAB83981.1; JOINED; Genomic_D;

REMBL; AF022834; AAB83981.1; JOINED; Genomic_D;

REMBL; AF022834; AAB83981.1; JOINED; Genomic_D;

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01-MAY-2000 (TrEMBLrel. 13,
01-MAR-2004 (TrEMBLrel. 26,
Miltidrug resistance protein
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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Best Local Sim:
Matches 1456;
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R InterPro; IPR00719; Prot kinase.

Pfam; PF00664; ABC_membrane; 2.

Pfam; PF00005; ABC_tran; 2.

ProDom; PD000006; ABC_tran; 2.

ProBas; TIGR00957; MRP_assoc_pro; 1.

TIGRAMs; TIGR09957; MRP_assoc_pro; 1.

PROSITE; PS50929; ABC_TRANSPORTER_1; 2.

PROSITE; PS50939; ABC_TRANSPORTER_2; 2.

PROSITE; PS50833; ABC_TRANSPORTER_2; 2.

PROSITE; PS50833; ABC_TRANSPORTER_2; 2.

PROSITE; PS00107; PROTEIN KINASE_ATP; UN

ATP-binding; Nucleotide-binding.
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A Ma L., Pratt S.E., Cao J., Dantzig A.H., Moore R.E., Slapak Submitted (AUG-2003) to the EMBL/GenBank/DDBJ databases.

-!-SKMILARITY: Belongs to the ABC transporter family.

EMBL; Ay363728; AAQ23148.1; -; mRNA.

EMBL; Ay363728; AAQ23148.1; -; mRNA.

EMBL; Ay363728; AAQ23148.1; -; mRNA.

EMBL; Ay363728; AAQ23148.1; -; mRNA.

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EMBL; Ay363728; AAQ23148.1; -; mRNA.

EMBL; Ay363728; AAA; -; AMC membrane; 1.

EMBL; Ay363728; AAA; -; AMC membrane; 2.

EMBL; AY363728; AAA; -; AMC membrane; 2.

EMBL; AY363728; AAA; -; AMC mRNA.

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EMBL; AY363728; AAC MRNA.

EMBL; AY363728; AMC MRNA.

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EMBL; AY36372728; AMC MRNA.

EMBL; AY363728; AMC MRNA.

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llarity 91.6%;
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JII 8 919 HUMAN Q59G19 HUMAN : Q59G19; 10-MAY-2005 (' 10-MAY-2005 (' 10-MAY-2005 (' (TrEMBLrel. (TrEMBLrel. (TrEMBLrel. 30, Created)
Last sequence
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Query Match
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-| SIMILARITY: Belongs to the ABC transporter fa
EMBL; AB209120; BAD92357.1; -; mRNA.
R EMBL; AB2091210; BAD92357.1; -; mRNA.
R EMBL; AB209121; C:integral to membrane; IEA.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0016021; F:ATPase activity; IEA.
R GO; GO:001606; F:nucleotide binding; IEA.
R GO; GO:000610; P:transport; IEA.
R GO; GO:000610; P:transport; IEA.
R GO; GO:0006810; P:transport; IEA.
R InterPro; IPR003593; AAA ATPase.
InterPro; IPR001140; ABC_TM_transpt.
InterPro; IPR001140; ABC_TM_transpt.
InterPro; IPR003439; ABC_TRANSPORTER.
InterPro; IPR003439; ABC_TRANSPORTER.
R PFAM; PF00005; AAC, TANSPORTER.
R PFAM; PF00005; AAC, TANSPORTER.
R PROSITE; PS00121; ABC_TRANSPORTER.
R PROSITE; PS00121; ABC_TRANSPORTER.
R PROSITE; PS00107; PROTEIN_KINASE_ATP; UNKNOWN_1.
AND TEND NICLEOTIDE BINDS.
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Totoki Y., Toyoda
Ohara O., Nagase T
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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Euarchontoglires; Primates; Catarrhini; Hominidae;
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"Functional analysis of MRP1 cloned from bovine.";

FEBS Lett. 521:211-213(2002).

-!- SIMILARITY: Belongs to the ABC transporter family

EMBL; AB082124; BAC15550.1; -; mRNA.

RSP; P08716; 1MT0.

GO; GO:0016021; C:integral to membrane; IEA.

GO; GO:0016887; F:ATPase activity; IEA.

GO; GO:00042626; F:ATPase activity, coupled to transme

GO; GO:00042626; F:ATPase activity, coupled to transme

GO; GO:0006810; P:transport; IEA.

R InterPro; IPR001527; ABC membrane 1.

InterPro; IPR001527; ABC membrane 1.

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R InterPro; IPR001527; ABC membrane 1.

R InterPro; IPR001527; ABC membrane 1.

R InterPro; IPR001527; ABC transplike.

R InterPro; IPR003439; ABC TM transplike.

R InterPro; IPR003439; ABC transporter; 2.

R Ffam; PF000664; ABC membrane; 2.

R Ffam; PF000665; ABC transporter; 2.

R Pfam; PF000066; ABC transporter; 2.

R PFAMST; SM00382; AAA; 2.

R PROSITE; PS50929; ABC TRANSPORTER 1; 2.

R PROSITE; PS50931; ABC TRANSPORTER 1; 2.

R PROSITE; PS50931; ABC TRANSPORTER 2; 2.

W ATP-binding; Nucleotide-binding; Repeat.

SEQUENCE 1530 AA; 171666 MW; AAB4F92ED7832703 CRC
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Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla;
Pecora; Bovidae; Bovinae; Bos.
NCBI_TaxID=9913;
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MEDLINE=22062955; PubMed=12067707;
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LVLIQLVLSCFSDRSPLFSETINDPNPCPESSASFLSRITFWWITGMMVQGYRQPLESTD
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                     WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
                                               LWSLNKEDTSEQVVPVLVKWWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL
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REMBL; AF022827; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022832; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022832; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022834; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022844; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022844; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022844; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022843; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022843; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022836; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022837; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022835; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022835; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022852; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022852; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022853; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022849; AAB83982.1; JOINED; Genomic DNA.
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REMBL; AF022846; AAB83982.1; JOINED; Genomic DNA.
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REMBL; AF022846; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022849; Fihomoscopittatate hydratase activity; NAS.
ROG; GO:0016021; C:integral to membrane 1.
REMBL; AF022831; AAB83982.1; JOINED; Genomic DNA.
REMBL; AF022849; Fihomoscopittate hydratase activity; NAS.
ROG; GO:0016021; C:integral to membrane 1.
REMBL; AF022849; AABR3982.1; JOINED; Genomic DNA.
REMBL; AF022833; AABR3982.1; JOINED; Genomic DNA.
REMBL; AF022833; AABR3982.1; JOINED; Genomic DNA.
REMBL; AF022833; AABR3982.1; JOINED; Genomic DNA.
REMBL; AF022833; AABR3982.1; JOINED; Genomic DNA.
REMBL; AF022833; AABR3982.1; JOINED; Genomic DNA.
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Multidrug resistance protein ()
ProDom; PD000006; ABC_transporter; 1.
SMART; SM00382; AAA; 2.
TIGRO957; MPP_assoc_pro; 1
PROSITE; PS50929; ABC_TM1F; 2.
PROSITE; PS00211; ABC_TRANSPORTER_1;
PROSITE; PS50893; ABC_TRANSPORTER_2;
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1- SIMILARITY: Belongs to the ABC transporter family.
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Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                     AVDAHVGKHIFENVIGPKGMLXNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELL
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25-OCT-2004 (Rel. 45, Last sequence update)
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13-SEP-2005 (Rel. 48, Last annotation update)
   NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].

STRAIN-C57BL/6J; TISSUE-Testis;

MEDLINE-22354683; PubMed-12466851; DOI=10.1038/nature01266;

MEDLINE-22354683; Pubmed-12466851; DOI=10.1038/nature01266;

Okazaki Y., Furuno M., Kasukawa T., Adachi J., Bono H., Kondo S.,

Okazaki Y., Furuno M., Kasukawa T., Adachi J., Samanaka I., Kiyosawa

Yagi K., Tomaru Y., Hasegawa Y., Nogami A., Schombach C., Gojobor

Yagi K., Tomaru Y., Hasegawa Y., Nogami A., Schombach C., Gojobor

Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J.,
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Deeley R.G.;
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RA Schriml L.M., Kanapin A., Matsuda H., Batalov S., Beisel K.W.,
RA Blake J.A., Bradt D., Brusic V., Chothai C., Corbani L.E., Cousins S.,
RA Dalla E., Dragani T.A., Fletcher C.F., Forrest A., Frazer K.S.,
RA Dalla E., Dragani T.A., Fletcher C.F., Forrest A., Frazer K.S.,
RA Gasterland T., Gariboldi M., Gissi C., Godzik A., Gough J.,
RA Kanai A., Kawaji H., Kawasawa Y., Kedzierski R.M., King B.L.,
Kanai A., Kawaji H., Kawasawa Y., Kedzierski R.M., King B.L.,
RA Konagaya A., Kurochkin I.V., Lee Y., Lenhard B., Lyons P.A.,
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RA Maglott D.R., Maltais L., Marchionni L., McKenzie L., Miki H.,
RA Maglott D.R., Pillai R., Pontius J.U., Qi D., Ramachandran S.,
RA Ravasi T., Reed J.C., Reed D.J., Reid J., Ring B.Z., Ringwald M.,
RA Sultana R., Fohneider C., Semple C.A., Setou M., Shimada K.,
RA Sultana R., Takenaka Y., Taylor M.S., Teasdale R.D., Tomita M.,
RA Valtana R., Takenaka Y., Taylor M.S., Teasdale R.D., Tomita M.,
RA Wilming L.G., Wynshaw-Boris A., Yanagisawa M., Yang I., Yang I.,
RA Wilming L.G., Wynshaw-Boris A., Yanagisawa M., Yang I., Yang I.,
RA Wilming L.G., Wynshaw-Boris A., Yanagisawa M., Yang I.,
RA Hirozane-Kishikawa T., Konno H., Nakamura M., Sakazume N., Sato K.,
RA Hirozane-Kishikawa T., Konno H., Nakamura M., Sakazume N., Sato K.,
RA Airaki T., Waki K., Kawai J., Aizawa K., Arakawa T., Fukuda S.,
RA Hara A., Hashirume W., Inotani K., Ishii Y., Itoh M., Kagawa I.,
RA Yasunishi A., Yoshino M., Waterston R., Lander E.S., Rogers J.,
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RA Yasunishi A., Sakai K., Sasaki D., Shibata K., Shinagawa A.,
RA Yasunishi A., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., Sasai K., S
SUBCELLULAR LOCATION: Integral membrane protein (B SIMILARITY: Belongs to the ABC transporter family. SIMILARITY: Contains 2 ABC transmembrane type-1 do SIMILARITY: Contains 2 ABC transporter domains.
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EMBL; AF022908; EMBL; AK029876; HSSP; P08716; 1M Ensemb1 long as its content is in no way modified ENSMUSG00000023088; Mus musculus. AAB80938.1; -; BAC26654.1; -; mRNA.

MGI; MGI:102676; Abccl.
GO; GO:0005887; C:integral to plasma mo
Chief Co; IPRO03593; AAA ATPase.
InterPro; IPRO11527; ABC\_membrane\_1.
InterPro; IPRO01140; ABC\_TM\_transpt.
InterPro; IPR003439; ABC\_transpplike.
InterPro; IPR003439; ABC\_transpplike.
InterPro; IPR005292; MRP\_assoc. TICREAMS; TIGR00957; MRP assoc\_pro; 1
PROSITE; PS50929; ABC\_TMIF; 2.
PROSITE; PS00211; ABC\_TRANSPORTER\_1;
PROSITE; PS50893; ABC\_TRANSPORTER\_2; ProDom; PD000006; AB(SMART; SM00382; AAA; Pfam; PF00664; ABC\_membrane; 2. Pfam; PF00005; ABC\_tran; 2. ABC \_transporter; membrane; IDA.

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                          DWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSST
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                                                                                                                                                                                                      LIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAP
                                                                                                                                                                                                                                             LWSLAKEDTSEEVVPVLVNNWKKECDKSRKQPVRIVYAPPKDPSKPKGSSQLDVNEEVEA
                                                                                                                                                                                                                                                             LWSINKEDTSEQVVPVIVKVWKKECAKTRKQPVKVVYS-SKDPAQPKESSKVDANEEVEA
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Yabuuchi H., Takayanagi S., Ishikawa T.;

Yabuuchi H., Takayanagi S., Ishikawa T.;

LSubmitted (PEB-2002) to the EMBL/GenBank/DDBJ databases.

-!- SIMILARITY: Belongs to the ABC transporter family.

REMBL; AF487549; AAO85437.1; -; mRNA.

REMBL; AF487549; AAO85437.1; -; mRNA.

REMBL; AF487549; AAO85437.1; -; mRNA.

REMBL; AF487549; AAO85437.1; -; mRNA.

REMBL; AF487549; AAO85437.1; -; mRNA.

REMBL; AF487549; AAO85437.1; -; mRNA.

REMBL; AF487549; AAO85437.1; -; mRNA.

REMBL; AF487549; AAOS5437.1; -; mRNA.

REMBL; AF487549; AAOS5437.1; -; mRNA.

REO; GO:0016021; C:integral to membrane; IEA.

REO; GO:0016087; F:ATPase activity; IEA.

REO; GO:00042626; F:ATPase activity; Coupled to transmembrane

REO; GO:000466; F:mucleotide binding; IEA.

REO; GO:0006810; P:transport; IEA.

REO; GO:0006810; P:transport; IEA.

REO; GO:0006810; P:transport; IEA.

REO; GO:00006810; P:transport; IEA.

REO; GO:0000006; ABC transporter; 2.

REMBL; PE00005; ABC transporter; 2.

REMART; SM00302; AAA; 2.

REMBL; PSS0929; ABC TRANSPORTER_1; 2.

REMBL; PSS0929; ABC TRANSPORTER_2; 2.

REMBL; PSS0929; ABC TRANSPORTER_3; 2.

REMBL; PSS0939; ABC TRANSPORTER_3; 2.

REMBL; PSS0939; ABC TRANSPORTER_3; 2.

REMBL; PSS09063; ALDÖKETO REDUCTĀSE 3; UNKNOWN_1.

REMBLEMBL; PSS09064; ABC TRANSPORTER_3; 2.

REMBL; PSS09064; ABC TRANSPORTER_3; 2.

REMBL; PSS090663; ALDÖKETO REDUCTĀSE 3; UNKNOWN_1.
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Rattus norvegicus (Rat).
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NCBI_TaxID=10116;
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                                                  LIVKSPOKEWNESLEKVLYKTFGEYFLMSFEFKAIHDLMMFSGPQILKLLIKFVNDTKAE
                                                                                                                   LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYS-SKDPAQPKESSKVDANEEVEA
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DWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSST
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                   CLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVI
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C STRAIN=Sprague-Dawley: To the ABC transporter family submitted (OCT-2002) to the ABC transporter family permitted (OCT-2002).
C STRAIN=Sprague-Dawley: To the ABC transporter family permitted (OCT-2002).
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C GO: 001601521; F.ATP binding; IEA.
C GO: 00105524; F.ATP binding; IEA.
C GO: 0010587; F.ATP binding; IEA.
C GO: 00106810; P:transport; IEA.
C GO: 00106810; P:transport; IEA.
C GO: 00106810; P:transport; IEA.
C GO: 00106810; P:transport; IEA.
C GO: 00106810; P:transport; IEA.
C GO: 0000166; F.ABC transport; IEA.
C GO: 000011527; ABC Transporter; Ped.
C InterPro; IPR001395; ABC Transporter; Ped.
C Pfam; PF00005; ABC transporter; Ped.
C Pfam; PF00005; ABC transporter; PED.
C R Pfam; PF00005; ABC transporter; PED.
C R PFAM; PF00005; ABC Transporter; PED.
C R PROSITE; PS00321; ABC TRANSPORTER 1; PED.
C R PROSITE; PS0031; ABC TRANSPORTER 1; PED.
C R PROSITE; PS0031; ABC TRANSPORTER 1; PED.
C R PROSITE; PS0033; ALDC TRANSPORTER 1; PED.
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Best Local Similarity
Matches 1338; Conserv
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Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
Muridae; Murinae; Rattus.
MCBI_TaxID=10116;
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Multidrug resistance-associated protein 1.
Name=Abcc1; Synonyms=Mrp1;
Rattus norvegicus (Rat).
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larity 87.3%;
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O; Mismatches
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                             VAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTIN
                                                               YGALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSK 1078
                                                                                                                                                                                                                                                                                                 LSVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDD-PIVNGTQEHTKVRLSV
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              VAVERLKEYSETEKEASWQIQETAPPSTWPHSGRVEFRDYCLRYREDLDLVLKHINVTIE
                                                                                                                                   QLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRW
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A Takayanagi S., Ishikawa T.;
L Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases.
C :- SIMMILARITY: Belongs to the ABC transporter family.
C EMBL; AY174892; AAO44983.1; -; mRNA.
RSSP; P08716; NWT0.
R RRGD; 3112; Abccl.
R RGG; G0:0016021; C:integral to membrane; IEA.
R G0; G0:0016021; F:ATP binding; IEA.
R G0; G0:0042626; F:ATPase activity; Coupled to transmembrane
R G0; G0:000166; F:nucleotide binding; IEA.
R G0; G0:000166; F:nucleotide binding; IEA.
R G0; G0:000166; F:nucleotide binding; IEA.
R G0; G0:0001681; F:ATPase activity, coupled to transmembrane
R G0; G0:000166; F:nucleotide binding; IEA.
R G0; G0:0001681; F:ATPase activity.
                                                                                                                      Query Match
Best Local Similarity
Matches 1333; Conserv
                                                                                                                                                                                            InterPro; IPRO03593; AAA ATPase.

InterPro; IPRO1527; ABC membrane 1.

InterPro; IPRO1140; ABC membrane 1.

InterPro; IPRO01439; ABC transp_like.

InterPro; IPRO03439; ABC transp_like.

InterPro; IPRO03439; Aldo/ket_red.

InterPro; IPRO0395; Aldo/ket_red.

InterPro; IPRO01395; Aldo/ket_red.

InterPro; IPRO01395; Aldo/ket_red.

InterPro; IPRO01395; ARP_assoc_red.

IPfam; PP00005; ABC transporter; 2.

IPfam; PP00005; ABC transporter; 2.

IPfam; PP00005; ABC TRANSPORTER_1; 2.

ITGRFAMs; TIGR0095; ABC TRANSPORTER_1; 2.

IPROSITE; PS0021; ABC TRANSPORTER_1; 2.

IPROSITE; PS0021; ABC TRANSPORTER_2; 2.

IPROSITE; PS00893; ABC TRANSPORTER_3; UNKNOWN_1.

IPROSITE; PS00893; ABC TRANSPORTER_3; UNKNOWN_1.

IPROSITE; PS00893; ABC TRANSPORTER_3; UNKNOWN_1.

IPROSITE; PS00893; ABC TRANSPORTER_3; UNKNOWN_1.

IPROSITE; PS00893; ABC TRANSPORTER_3; UNKNOWN_1.

IPROSITE; PS00893; ABC TRANSPORTER_3; CONTRANSPORTER_3; CO
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JG9 RAT
JG9 RAT
JG10G9 RAT
Q810G9;
O1-JUN-2003
O1-JUN-2003
O1-JUN-2003
O1-MAR-2004
ATP-binding
Name=Abcc1;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
Muridae; Murinae; Rattus.
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                                                               MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
      DRGY1QMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA
                                          MALRSFCSSDGSDPLWDWNVTWHTSNPDFTKCFQNTVLTWVPCFYLWSCFPLYFLYLSRH
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98; Mismatches
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                                                           LSVYWNYMKAIGLCISFLSIFLFLCNHVSALASNYWLSLWTDDRPAVNGTQENRNFRLSV
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C STRAIN=CB; TISSUE=Bursa;
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                                                                       VENGVLVNDATGKLMHRQLSNSSTYSRETGKSQHQSSTAELQKPLAEK-NSWKLTEADTA
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YTRVIVLDKGEIQEYGAPSDLIQQRGLFYSMAKDAGL 1530     -	QRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMD 1493 	PQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVG 1433     :	NVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITII 1373  -	METNIVAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHI 1313 	VANRWLAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSE 1253 	VASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSI 1193   :	NRFSKELDTVDSMIPBVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFY 1133      :  :	VRLSVYGALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLV 1073 	:  :   :   :        :

Search completed: December 15, 2005, 15:33:24 Job time: 257.254 secs

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Result
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Maximum Match 100%
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1: /cgn2_6/ptodata/1/iaa/5_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/6_COMB.pep:*

3: /cgn2_6/ptodata/1/iaa/H_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

5: /cgn2_6/ptodata/1/iaa/RE_COMB.pep:*

6: /cgn2_6/ptodata/1/iaa/ABE_COMB.pep:*
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Copyright (c) 1993 - 2005 Compugen Ltd.
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US-08-463-092B-4
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US-09-657-279-537	US-09-651-236-537	US-09-759-143-537	US-09-679-426-537	US-09-685-166A-537	US-09-636-215-537	US-09-439-313-537	US-09-208-716-3	US-08-726-320-3	US-10-012-896-1009	US-10-012-896-538	US-09-657-279-538	US-09-651-236-538	US-09-759-143-538	US-09-679-426-538	US-09-685-166A-538	US-09-636-215-538	US-09-439-313-538
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ALIGNMENTS

; Sequence 4, Application US/08463092B ; Patent No. 5766880 APPLICATION UMBER: US/08/463,092B
FILING DATE: 05-UNN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UMBER: 07/966,923
ALPLICATION UMBER: 07/966,923
FILING DATE: 27-0CT-1992
CLASSIFICATION DATA:
APPLICATION UMBER: 08/029,340
FILING DATE: 8-WAR-1993
CLASSIFICATION: 435
PRIOR APPLICATION: ATA: GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULES ENCODING
TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UDATA: 08/407,207
APPLICATION UDATA: 1995
CLASSIFICATION: 435
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Steeg, Carol Miernicki
NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: 01546
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-2342
TELEPAX: (613) 545-2342 TELEFAX: (613) 545-68 INFORMATION FOR SEQ ID NO: COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: ASCII text CURRENT APPLICATION DATA: CORRESPONDENCE ADDRESS: NUMBER OF SEQUENCES: STREET: Queen's CITY: Kingston STATE: Ontario COUNTRY: CANADA ZIP: K7L 3N6 APPLICATION NUMBER: 08/141,893 FILING DATE: 26-0CT-1993 ADDRESSEE: CANADA Queen's University at Kingston PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS 545-6853 08/407,207 Q1546

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Best Local Similarity
Matches 1531; Conser
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LENGTH: 1531 amino aci
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
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   LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQXAEAKKEETWKLMEADXAQTGQVKL
                                                                     MSGGKI SEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM
                                                                                                                                 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
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                                                  MSGGKI SEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM
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100.0%; Pred. No. 0;
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                                                                                                                                                                                                                                                                                            | Sequence 4, Application US/08462109A | Patent NO. 5882075 | GENERAL INFORMATION | GENERAL INFORMATION | APPLICANT: Cole, Susan P.C. | APPLICANT: Deeley, Roger G. | TITLE OF INVENTION | METHODS FOR IDENTIFYING TITLE OF INVENTION | MULTIDRUG RESISTANT TUMOR | NUMBER OF SEQUENCES: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6 | CORRESPONDENCE ADDRESS: 6
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US-08-462-109A-4
STREET: 60 State Street, suite 510 CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII teaxt
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,1099
FILING DATE:
CLASSIFICATION NUMBER: 07/966,923
APPLICATION NUMBER: 08/029,340
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APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DECONTI, Giulio A. Jr.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: PQI-002CP4
TELEPHONE: (617) 227-7400
TELEPHONE: (617) 227-7400
TELEPAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
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Best Local Similarity 100.0%; Pred. No. 0;
Matches 1531; Conservative 0; Mismatches
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     SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR 780
                                                     LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
                                                                                                   MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT
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                                 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
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US-08-460-907B-4
; Sequence 4, Application
; Patent No. 5891724
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                                                                                       APPLICANT: Deeley, Roger G.
APPLICANT: Cole, Susan P.C.
TITLE OF INVENTION: METHODS FOR CONFERRING
TITLE OF INVENTION: RESISTANCE ON A CELL
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSEE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS STREET: Queen's University at Kingston CITY: Kingston STATE: Ontario COUNTRY: CANADA ZIP: K7L 3N6
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Qy 1501 DXGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531	OY 1441 ARALLAKTKILVLDBATAAVDLETDDLIQSTIRTQFBDCTVLTIAHRLNTIMDYTRVIVL 1500		1321 EKVGIVKKIGNONSULLGGIFKINESAEGELILUGINIAKIGHDURFKILILEQUPVLF 1321 EKVGIVGRTGAGKSSUTIGIFRINESAEGEIIIDGINIAKIGHDLRFKITIIPQDPVLF	1261 VEKLKEYSSTEKSAFWQIQETAFYSSWPQVGKYSFRWYCLKYKEDLDFYLKHINVTINGG	1201 VRLBCVCNCIVLFAALFAVISRHSLSAGLVCLSVSYSLQVTTYLNWLYRMSSEMETNIVA 1201 VRLBCVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1201 VRLBCVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA			Oy 1021 ALGISQGTAVFGYSMAVSIGGILASRCLHVDLLHSILRSEMSFFERTPSGNLVNRFSKEL 1080		Qy 901 LVTDSAGKOLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL 960	Qy 841 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM 900	Qy 781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840	Oy 721 SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGOKORVSLAR 780	Qy 661 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND 720	Qy 601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660	Qy 541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600	Qy 481 AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK 540	Db 421 GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVN 480

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Best Local Similarity
Matches 1531; Conserv
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APPLICATION NUMBER: 07/966,923

FILING DATE: 27-0CT-1992

APPLICATION NUMBER: 08/029,340

FILING DATE: 8-MAR-1993

APPLICATION NUMBER: 08/141,893

FILING DATE: 26-0CT-1993

APPLICATION NUMBER: 08/407,207

FILING DATE: 20-MAR-1995

AFTORNEY/AGENT INFORMATION:

NAME: DECONTI, Giulio A. Jr.

REGISTRATION NUMBER: 31,503

REFERENCE/DOCKET NUMBER: PQI-0020

TELECOMMUNICATION INFORMATION:

TELEPHONE: (617) 227-7400

TELEFAX: (617) 227-7401

TRILEFAX: (617) 227-541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Cole, Suban P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING CHEMOSENSITIZERS
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/463,1791
FILING DATE:
CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid TOPOLOGY: linear
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     LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 300
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                                                        LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240
                                                                                                                     TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180
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                                     LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
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                                                                      VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1320
                                                                                                                                      VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260
                                                                                                                                                                                                  KRLESVSRSPVYSHFNETLLGVSVIRAFBEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200
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Qy 61 DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA 120 	Qy 1 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPPYFLYLSRH 60 1 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPPYFLYLSRH 60	Query Match 80.7%; Score 7860; DB 2; Length 1531; Best Local Similarity 100.0%; Pred. No. 0; Matches 1531; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	TYPE: all TOPOLOGY MOLECULE TO S-08-461-384B-	TELEFAX: (613) 545-6853 ; INFORMATION FOR SEQ ID NO: 4: ; SEQUENCE CHARACTERISTICS: ; LENGTH: 1531 amino acide		ΑŢ	APPLICATION NUMBER: 08/029,340 FILING DATE: 8-MAR-1993 APPLICATION NUMBER: 08/141,893 FILING DATE: 08-007-1000	FILING DATE: 05-JUN-95 PRIOR APPLICATION DATA: APPLICATION UNMBER: 07/ EILING DATE: 27-07-199	9			TITLE OF INVENTION: MULTIDRUG RESISTANCE PR NUMBER OF SEQUENCES: 10 CORRESPONDENCE ADDRESS:	E Dat	RESULT 5 US-08-461-384B-4 . General A Prolication US/08461384B	Qy 1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531	Qy 1441 ARALLKKKKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500 	Qy 1381 SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440	Db 1321 EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF 1380
	, p &	. B &	DB Qy	dg VQ	Оу	Qу	Qy Db	Оу	Qу	Qy Дъ	ОУ	Qy Db	Qy Db	Qy Db	ОУ	Qy Db	dd Qy	Db
1141 KRIESVSKSFYVSHENETILIGVSVIKAFESQEKFINGSDIKVDENDATITSTVANKMIA 1200 1141 KRIESVSRSPVYSHFNETILIGVSVIKAFESQEKFIHQSDIKVDENDKAYYPSIVANKMIA 1200	DTVDSWIPEVIKMEMGSLENVIGACITILLATE FAMILIE FUNDIGUIYEVQRE VARGE TAMBURG TO TOTAL TOTA	ALGISQGI	SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG 102	901 LVTDSAGKOLOROLSSSSSYSGDISRHHNSTAELOKAEAKKEETWKLMEADKAQTGQVKL 960 	841 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM 900 	781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840 	721 SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGGKQRVSLAR 780                    721 SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGGKQRVSLAR 780	661 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND 720 	601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660	541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600 	481 AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK 540 	421 GBIVNIMSVDAQREMDLATYINMIWSAPLQVILALYLIWLNIGPSVLAGVAVMVIMVPVN 480 	361 WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 420 	301 IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD 360 	241 LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 300 	181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240	121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180 	61 DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA 120

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CURRENT APPLICATION NUMBER: US/09/647,140B
CURRENT FILING DATE: 2001-05-21
PRIOR APPLICATION NUMBER: PCT/US99/06644
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/079,759
PRIOR PILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/095,153
PRIOR PILING DATE: 1998-08-03
PRIOR FILING DATE: 1998-08-03
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Best Local Similarity
Matches 1531; Conserv
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                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Fox Chase Cancer Center
APPLICANT: Kruh, Gary D.
APPLICANT: Lee, Kun
APPLICANT: Belinsky, Martin G.
APPLICANT: Belinsky, Martin G.
APPLICANT: Bain, Lisa J.
TITLE OF INVENTION: Mmp-Related ABC Transporter
TITLE OF INVENTION: Nucleic Acids and Methods o
                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Homo Sapiens
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RESULT 8
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                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
CLASSIFICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
CLASSIFICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 08/141,893
FRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/407,207
FILING DATE: 26-0CT-1993
CLASSIFICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION SATION: 435
ATTORNEY/AGENT INFORMATION: 39,539
REFERENCE/DOCKET NUMBER: 39,539
REFERENCE/DOCKET NUMBER: 01546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULE
TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS
NUMBER OF SEQUENCES: 9
    TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-2342
TELEFAX: (613) 545-6853
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PATENT NO. 582375
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING
TITLE OF INVENTION: MULTIDRUG RESISTANT TUMOR CELLS
NUMBER OF SEQUENCES: 6
                                                      ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
STRYEET: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/462,109/
FILING DATE:
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/9:
FILING DATE: 27-0CT-1992
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ADDRESSEE: LAHIVE & COCKFIELD
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FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DECORT: 10-MABER: 31,503
REFERENCE/DOCKET NUMBER: PQI-00;
TELECPHONE: (617) 227-7400
TELEPHONE: (617) 227-7400
TELEPHONE: (617) 227-7400
TELEPAN: (617) 227-7400
TELEPAN: 1531 amino acids
TYPE: amino acids
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                                 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
                                                                                                                                                      KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP
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Pred. No. 0;
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Sequence 2, Application US/08460907B
Patent No. 5891724
GENERAL INFORMATION:
APPLICANT: Deeley, Roger G.
APPLICANT: Cole, Susan P.C.
TITLE OF INVENTION: METHODS FOR COL
TITLE OF INVENTION: RESISTANCE ON J
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSEE: PARTEQ RESEARCH & DEV
STREET: Queen's University at Ki
                                                                                                                                                                                                                                  RESULT 10
US-08-460-907B-2
STREET: Queen's CITY: Kingston STATE: Ontario COUNTRY: CANADA
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; TYPE: amino acid
; TOPOLOGY: linear
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Best Local Similarity
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COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: ASCII text

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/460,907B

FILING DATE: 05-UN-1995

CLASSIFICATION: 424
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NAME: Steeg, Carol Miernicki
REGISTRATION UNUMEE: 39,539
REFERENCE/DOCKET NUMBER: Q1551
TELEPHONE: (613) 545-2342
TELEPAX: (613) 545-6853
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APPLICATION NUMBER: 07/96(
PRILING DATE: 27-0CT-1992
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
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APPLICATION NUMBER: 08/1
FILING DATE: 26-0CT-1993
CLASSIFICATION: 424
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APPLICATION NUMBER: 08/40
FILING DATE: 20-MAR-1995
CLASSIFICATION: 424
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FILING DATE: 8-MAR-
CLASSIFICATION: 424
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                                 WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
                                                                                              IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
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                                                                                                                                                               LWSLINKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL
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            WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
                                                                               IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
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Pred. No. 0;
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                                                        ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL
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DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531
                                                                                                                                                                                      EKVG1VGRTGAGKSSLTLGLFRINESAEGE11IDGINIAK1GLHDLRFK1T1IPQDPVLF
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                                ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL
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US-08-463-179A-2
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GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
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APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
APPLICATION NUMBER: 08/407,207
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 10-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DeConti, Giulio A. Jr.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: PQI-002CP8
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2
SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
TYPE: amino acid
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CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE FLOOPY di
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE; ASCII text CURRENT APPLICATION DATA:
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CORRESPONDENCE ADDRESS:
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TYPE: ami
TOPOLOGY:
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Pred. No. 0;
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음 성 음 성 음 성

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 EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF 1380
                                                                                                            VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA
                                                                                                                                 VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260
                                                                                                                                                                                                     KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200
                                                                                                                                                                                                                                                                             DTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQL 1140
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Sequence 2, Application US/08461384B
Patent No. 6025473
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: MULTIDRUG RESINUMBER OF SEQUENCES: 10
                                                                                                                                                           ; MOLECULE TYPE:
US-08-461-384B-2
                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/461,384B
FILING DATE: 05-UN-95
PRIOR APPLICATION DATA:

APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/41,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:

NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: 01547
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-2342
                                                                                                                                                                                                                                                    TELEFAX: (613) 545-685:
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: K7L 3N6
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
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CITY: Kingston
STATE: Ontario
COUNTRY: CANADA
                                                                           y Match 80.6%;
Local Similarity 99.9%;
hes 1529; Conservative
                                                                                                                                                                                                 TYPE: amino acid TOPOLOGY: linear
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MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
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                                                                           Score 7849; DI
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(NFORMATION: ) 545-2342 345-685 3: ID NO: 2: SSTICS: Ino acids a control of the c	FILING DATE: 27-0CT-1992  APPLICATION NUMBER: 08/029,340  FILING DATE: 8-MAR-1993  APPLICATION NUMBER: 08/141,893  FILING DATE: 26-0CT-1993  ATTORNEY/AGENT INFORMATION:  NAME: Steeg, Carol Miernicki REGISTRATION NUMBER: 39,539  REFERENCE/DOCKET NUMBER: 01512	TYPE:  2R: II  ING SYS  RE: AS  APPLICATION I  DATE:  PLICATION II  ATION II	OF SEQUENCES: 7  PRONDENCE ADDRESS:  BESSEB: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS  SET: Queen's University at Kingston  C: Kingston  TRY: Ontario  TRY: CANADA  KTL 3N6  KTL 3N6	RESULT 13 US-08-407-207A-2 IS-08-407-207A-2 ; Sequence 2, Application US/08407207A ; Patent No. 6063621 ; GENERAL INFORMATION: ; APPLICANT: Deeley, Roger G. ; APPLICANT: Cole, Susan P.C. ; TITLE OF INVENTION: ANTIBODIES TO A MULTIDRUG RESISTANCE PROTEIN	Qy 1441 ARALLAKTKILVLDEATAAVDLETDDLIQSTIETQFEDCTVLTIAHRLATIMDYTRVIVL 1500	1321 EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF  1381 SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL	Db 1141 KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200  Qy 1201 VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260

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Query Match
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Matches 1529; Conserv
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                                SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSIWTDDPIVNGTQEHTKVRLSVYG 1020
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ADDRESSE: PARTEQ RESEARCH &
STREET: Queen's University at
CITY: Kingston
STATE: Ontario
COUNTRY: CANADA
ZIP: K71 3N6
COUNTRY: CANADA
ZIP: K71 3N6
COUNTRY: CANADA
ZIP: K71 3N6
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-D
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/463
FILING DATE: 05-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 07/966,92
FILING DATE: 27-0CT-1992
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/029,34
FILING DATE: 8-MAR-1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
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K7L 3N6
ER READABLE FORM:
LUM TYPE: Floppy disk
TYPE: Floppy disk
TYPER; IBM PC compatible
TYPER; PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531
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                                                                                                                                                         US/08/463,092B
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NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,339
REFERENCE/DOCKET NUMBER: 01546
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-3342
TELEPAX: (613) 545-6853
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Loc
Matches
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CCLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/407
FILING DATE: 20-MAR-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Steeg, Carol Miernic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 1528 amino acids TYPE: amino acid TOPOLOGY: linear
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1349; Conserv
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            TLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVTLKGSVAYVPQQAWIQN
                        TLNGITESIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQN
                                                        LIVKSPHKDREPSLFKVLYKTFGPYFLMSFLYKALHDLMMFAGPKILELIINFVNDREAP
                                                                                                                                                                                                                                                                                                          LIVKSPQKEMNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAP
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88.0%; Pred. No. 0;
tive 102; Mismatches
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             719
                                                                   Sequence 6, Application US/08462109A
Patent No. 5882875
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR ID
TITLE OF INVENTION: MULTIDRUG RESI
NUMBER OF SEQUENCES: 6
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US-08-462-109A-6
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                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE &
STREET:
CITY: Bo
STATE: M
COUNTRY:
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                      Boston
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   LAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNI 1258
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                                                                                                                                                                                                                                                                                                                      LFSGSLRWILDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLV
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                                                                                                                                                                                                              VLDKGEVRECGAPSELLQQRGIFYSMAKDAGLV
                                                                                                                                                                                                                                                                                                           LFSGSLRMNLDPFSQYSDEEVWMALELAHLKGFVSALPDKLNHECAEGGENLSVGQRQLV
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            Massachusetts
                                  60 State Street,
                                               & COCKFIELD
                                   suite
                                                                                FOR IDENTIFYING UG RESISTANT TUMO
                                   510
                                                                                   TUMOR
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US-08-462-109A-6
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Best Local S
Matches 1349
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INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 1528 amino acids
TYPB: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:

APPLICATION NUMBER: 07/966,923

FILING DATE: 27-0CT-1992

APPLICATION NUMBER: 08/029,340

FILING DATE: 8-MAR-1993

APPLICATION NUMBER: 08/141,893

APPLICATION NUMBER: 08/407,207

FILING DATE: 26-0CT-1993

APPLICATION NUMBER: 08/407,207

FILING DATE: 10-MAR-1995

ATTORNEY/AGRAT INFORMATION:

NAME: DeConti, Giulio A. Jr.

REGISTRATION NUMBER: 31,503

REFERENCE/DOCKET NUMBER: 31,503

REFERENCE/DOCKET NUMBER: 701-002CP4

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 02109

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: ASCII text

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    71.9%; Score 7002.5; Local Similarity 88.0%; Pred. No. 0; hes 1349; Conservative 102. "----
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                       480
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NAVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVL 539
                                                                                                                                                       LIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAP 359
                                                                                                                   DWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSST
                                                                                                                                                                                                         LWSLNKEDTSEEVVPVLVNNWKKECDKSRKQPVRIVYAPPKDPSKPKGSSQLDVNEEVEA
                                                                                                                                                                                                                       LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYS-SKDPAQPKESSKVDANBEVEA 299
                                                                                                                                                                                                                                                                                                              TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180
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                                                   VGETVNLMSVDAQRFMDLATYINMIWSAPLQVILALYFLWLSLGPSVLAGVAVMILMVPL
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                                                                                                                                                                                                                                                                                     VAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTIN 1318
                                                                                                                                                                                                                                                                                                                         LAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNI 1258
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## ALIGNMENTS

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SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 1891
TYPE: PRT
ORGANISM: Homo sapiens
US-10-665-283-4
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APPLICANT: DERAND, Renaud
APPLICANT: GARCIA, Elisabeth
APPLICANT: PROST, Anne-Lise
APPLICANT: REVILLOUD, Jean
APPLICANT: VIVAUDOU, Michel
TITLE OF INVENTION: ION CHANNEL HYBRID PROTEINS AS
FILE REFERENCE: F263US104
CURRENT APPLICATION NUMBER: US/10/665,283
CURRENT FILING DATE: 2003-09-22
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Best Local S
Matches 1891
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                                                                LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL
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GENERAL INFORMATION:
APPLICANT: COMMISSARIAT A L'ENERGIE ATOMIQUE
APPLICANT: DERAND, Renaud
APPLICANT: DERAND, Renaud
APPLICANT: PROST, Anne-Lise
APPLICANT: PROST, Anne-Lise
APPLICANT: PROST, Anne-Lise
APPLICANT: VIVAUDOU, Michel
ITILE OF INVENTION: ION CHANNEL HYBRID PROTEINS AS
FILE REFERENCE: F263US104
CURRENT APPLICATION NUMBER: US/10/665,283
CURRENT FILING DATE: 2003-09-22
NUMBER OF SEQ ID NOS: 25
SOFTWARE: Patentin version 3.1
SEQ ID NO 1
LENGTH: 1927
TYPE: PRT
ORGANISM: Homo sapiens
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                                    VRLECYGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA
                                                                                   KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200
                                                                                                                                  ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL
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                                                                                            Sequence 6, Application US/10665283
; Publication No. US20050063989A1
; GENERAL INFORMATION:
; APPLICANT: COMMISSARIAT A L'ENERGIE ATOM
; APPLICANT: DERAND, Renaud
; APPLICANT: DERAND, Renaud
; APPLICANT: PROST, Anne-Lise
; APPLICANT: PROST, Anne-Lise
; APPLICANT: VIVAUDOU, Michel
; TITLE OF INVENTION: ION CHANNEL HYBRID P.
; TITLE OF INVENTION NUMBER: US/10/665,28:
; CURRENT APPLICATION NUMBER: US/10/665,28:
; CURRENT ETLING DATE: 2003-09-22
; NUMBER OF SEQ ID NOS: 25
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 6
; LENGTH: 1927
; TYPE: PRT
; ORGANISM: Homo sapiens
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 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
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	RQL 1140 	1081 DTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASS 	
	KEL 1080	1021 ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSBMSFFERTPSGNLVNRFS	
	SVYG 1020        SVYG 1020	961 SVYWDYNKAIGLEISELSIELEMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLS 	
	90/KT 960	01 LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTG 	
· · · · · · · · · · · · · · · · · · ·	NGM 900     NGM 900	841 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGYTGVSGPGKEAKQMENGM 	
<u> </u>	IIV 840     IIV 840	781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 	
9 2 8		SLRENILFGCOLEEPYYRSVIOACALLPDLEILPSGDRTEIGEKGVNLSGGOKORVS 	
9 2 5	[QND 720 	61 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWI	
9 B 8	)PPT 660	01 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSI 	
9 2 8	ITB 600     	541 KSAYLSAVGTFTWVCTÞFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFÞLN 	
. z s	VLK 540     VLK 540	481 AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVL 	
5 5 8	PVN 480     PVN 480	421 GEIVNIMSVDAQREMDLATYINMIWSAPLQVILALYLLWINIGPSVLAGVAVMVLMVPVN 	
9	STV 420		
	APD 360     APD 360	301 IVKSPQKEWNPSLEKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKA 	
9 B 8	EAL 300     EAL 300	241 LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVE	
5	GSD 240 	181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLE	
P	YFS 180     YFS 180	121 TFLIQLERRKGYOSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYF 	
2 2 5	LLA 120      LA 120	61 DRGYIOMTPLNKTKTALGELLWIVCWADLEYSEWERSRGIELAPVELVSPTLLGITTLLA 	

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GRYSVDYSKFGNTIKVPTPLCTARQLDEDRS 1891	GRYSVDYSKFGNTIKVPTPLCTARQLDEDRS 1891	NSPLYDLAPSDLHHHQDLEIIVILEGVVETTGITTQARTSYLADEILWGQRFVPIVAEED 1860	NSPLYDLAPSDLHHHQDLEIIVILEGVVETTGITTQARTSYLADEILWGQRFVPIVARED 1860	VGGNGIFLVAPLIIYHVID	DLRKSMIISATIHMQVVRKTTSPEGEVVPLHQVDIPMENGVGGNGIFLVAPLIIYHVIDS 1800	LAILILIVQNIVGLMINAIMLGCIFMKTAQAHRRAETLIFSKHAVITLRHGRLCFMLRVG 1740	LAILILIVQNIVGLMINAIMLGCIFMKTAQAHRRAETLIFSKHAVITLRHGRLCFMLRVG 1740	LLFAMVWWLIAFAHGDLAPGEGTNVPCVTSIHSFSSAFLFSIEVQVTIGFGGRMVTEECP 1680	LLFAMVWWLIAFAHGDLAPGEGTNVPCVTSIHSFSSAFLFSIEVQVTIGFGGRNVTEECP 1680	PRYRTRERRARFVSKKGNCNVAHKNIREQGRFLQDVFTTLVDLKWPHTLLIFTMSFLCSW 1620	PRYRTRERRARFVSKKGNCNVAHKNIREQGRFLQDVFTTLVDLKWPHTLLIFTMSFLCSW 1620	DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLVGGGGGGMLSRKGIIPEEYVLTRLAEDPAE 1560	DKGBIQEYGAPSDLLQQRGLFYSMAKDAGLVGGGGGGMLSRKGIIPEEYVLTRLAEDPAE 1560	ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQEEDCTVLTIAHRLNTIMDYTRVIVL 1500	ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500	SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440	SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440	EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF 1380	EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITTIIPQDPVLF 1380	VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1320	VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1320	VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260	VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260	KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200	KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200

RESULT 4

US-10-665-283-8

i Sequence 8, Application US/10665283

publication No. US20050063989A1

publication No. US20050063989A1

i GENERAL INFORMATION:
APPLICANT: COMMISSARIAT A L'ENERGIE ATOMIQUE

APPLICANT: GARCIA, Elisabeth
APPLICANT: GARCIA, Elisabeth
APPLICANT: REVILLOUD, Jean

APPLICANT: REVILLOUD, Michel

TITLE OF INVENTION: ION CHANNEL HYBRID PROTEINS AS ELECTRICAL SENSORS AND USE THEREOF

FILE REFERENCE: F263US104

CURRENT FILLING DATE: 2003-09-22

NUMBER OF SEQ ID NOS: 25

SOFTWARE: Patentin version 3.1

SEQ ID NO 8

LENGTH: 1947

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                                                  MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM
                                                                               AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
                                                                                                            SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGGKQRVSLAR
                                                                                                                                        LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
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RESULT 5
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: Sequence 86, Application US/09939853A
: Publication No. US20040039163A1
: GENERAL INFORMATION:
: APPLICANT: BUYGESS et al.
: TITLE OF INVENTION: No. US20040039163A1el Pro:
: FILE REFERENCE: 21402-099
: CURRENT APPLICATION NUMBER: US/09/939,853A
: CURRENT FILING DATE: 2001-08-27
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PRIOR APPLICATION NUMBER: 60/228,191
PRIOR FILING DATE: 2000-08-25
PRIOR APPLICATION NUMBER: 60/267,300
PRIOR FILING DATE: 2001-02-08
PRIOR APPLICATION NUMBER: 60/269,961
PRIOR FILING DATE: 2001-02-20
PRIOR APPLICATION NUMBER: 60/277,337
PRIOR APPLICATION NUMBER: 60/277,337
PRIOR FILING DATE: 2001-03-20
NUMBER OF SEQ ID NOS: 159
SOFTWARE: Patentin Ver: 2.1
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Sequence 6, Application US/10667891
Publication No. US20040171024A1
GENERAL INFORMATION:
APPLICANT: ROTH, CHARLES W.
APPLICANT: BREY, PAUL T.
APPLICANT: HOLM, INGE
APPLICANT: RZHETSKY, ANDREY
ITITLE OF INVENTION: MULTIDRUG RESISTANCE PROFITIES OF INVENTION NUMBER: US/10/667,891
CURRENT FILING DATE: 2003-09-23
PRIOR APPLICATION NUMBER: 60/413,469
PRIOR FILING DATE: 2002-09-26
NUMBER: OF SEQ ID NOS: 76
SOFTWARE: PAtentin Ver. 3.2
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                                         LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL
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Sequence 6, Application US/10807466

Publication No. US20040244066A1

GENERAL INFORMATION:
APPLICANT: ROTH, CHARLES W.
APPLICANT: HOLM, INGE
APPLICANT: HOLM, INGE
APPLICANT: GRAILLES, MARINE
APPLICANT: GRAILLES, MARINE
APPLICANT: REFETSKY, ANDREY
ITITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS IN
ITITLE OF INVENTION: ANOPHELES
FILLE REFERENCE: 03495.0294-01000
CURRENT APPLICATION NUMBER: US/10/807,466
CURRENT APPLICATION NUMBER: 10/667,891
PRIOR APPLICATION NUMBER: 50/413,469
PRIOR APPLICATION NUMBER: 60/413,469
PRIOR FILING DATE: 2002-09-26
NUMBER OF SEQ ID NOS: 139
SOFTWARE: Patentin Ver. 3.2
LENGTH: 1531
TYPE: PRT
ORGANISM: Homo sapiens
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PRIOR FILING DATE: 2002-07-23
PRIOR PPLICATION NUMBER: ED 01 11 7608.8
PRIOR PELLING DATE: 2001-07-23
PRIOR APPLICATION NUMBER: ED 02011710.7
PRIOR PELLING DATE: 2002-05-24
NUMBER OF SEQ ID NOS: 683
SOFTWARE: Patentin version 3.1
SEQ ID NO 678
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                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 1531; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: EPIDAUROS Biotechnologie Aktiengesellschaft
TITLE OF INVENTION: Means and methods for improved treatment of cancer based on
FILE REFERENCE: F2285PCT-1
CURRENT APPLICATION NUMBER: US/10/484,577
CURRENT FILING DATE: 2004-01-22
CURRENT FILING DATE: 2004-01-22
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TITLE OF INVENTION: MRP-Related ABC Transporter Encoding
TITLE OF INVENTION: Nucleic Acids and Methods of Use Thereof
FILE REFERENCE: FCCC 98-0:
CURRENT APPLICATION NUMBER: US/10/889,503
CURRENT FILING DATE: 2004-07-12
PRIOR APPLICATION NUMBER: US/99/647,140
PRIOR FILING DATE: 2000-09-27
PRIOR FILING DATE: 2000-09-27
PRIOR APPLICATION NUMBER: PCT/US99/06644
PRIOR APPLICATION NUMBER: 60/079,759
PRIOR FILING DATE: 1999-03-26
PRIOR FILING DATE: 1998-03-27
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/095,153
PRIOR APPLICATION NUMBER: 60/095,153
PRIOR APPLICATION NUMBER: 60/095,153
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FRASTSEQ for Windows Version 3.0
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ORGANISM: Homo
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                                                                                      LLLIQLVLSCESDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
                                                                                                                              LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL
                                                                     LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
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                                                    VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG
                                                                                LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL
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GENERAL INFORMATION:

APPLICANT: Aziz, Natesha
APPLICANT: Zlotnik, Albert
TITLE OF INVENTION: NOVEL METHODS OF DIAGNOSIS OF METASTATIC CANCER, COMPOSITIONS
TITLE OF INVENTION: METHODS OF SCREENING FOR MODULATORS OF METASTATIC CANCER
FILE REPERENCE: file
CURRENT APPLICATION NUMBER: US/10/756,149
CURRENT FILING DATE: 2004-01-12
NUMBER OF SEQ ID NOS: 5818
SOFTWARE: Patentin version 3.2
SEQ ID NO 5033
LENGTH: 1531
TYPE: PRT
ORGANISM: Homo Sapiens
US-10-756-149-5033
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Best Local Similarity 100.0%;
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RESULT 11
US-09-939-853A-87
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; Publication No. US20040039163A1
; GENERAL INFORMATION:
; APPLICANT: Burgess et al.
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                                                                                DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
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FILE REFERENCE: 21402-099
CURRENT APPLICATION UMMBER: US/09/939,853A
CURRENT FILING DATE: 2001-08-27
PRIOR APPLICATION NUMBER: 60/228,191
PRIOR APPLICATION NUMBER: 60/267,300
PRIOR APPLICATION NUMBER: 60/267,300
PRIOR FILING DATE: 2001-02-08
PRIOR APPLICATION NUMBER: 60/269,961
PRIOR FILING DATE: 2001-02-20
PRIOR APPLICATION NUMBER: 60/277,337
PRIOR FILING DATE: 2001-03-20
PRIOR FILING DATE: 2001-03-20
PRIOR FILING DATE: 2001-03-20
PRIOR FILING DATE: 2001-03-20
PRIOR FILING DATE: 2001-03-20
PRIOR FILING DATE: 2001-03-20
NUMBER OF SEQ ID NOS: 159
SOFTWARE: Patentin Ver. 2.1
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LENGTH: PatentIn
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                              VGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEPY
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APPLICANT: Day, Anthony G.
APPLICANT: Day, Anthony G.
APPLICANT: Estell, David A.
APPLICANT: Yao, Jian
TITLE OF INVENTION: Methods for Modulating Proteins Not TITLE OF INVENTION: Methods for Modulating Proteins Not TITLE OF INVENTION: Methods for Modulating Proteins Not TITLE OF INVENTION: Methods for Modulating Proteins Not TITLE OF INVENTION NUMBER: US/10/618,281
CURRENT APPLICATION NUMBER: US 60/395,325
PRIOR APPLICATION UNDEER: US 60/395,325
PRIOR FILING DATE: 2002-07-12
NUMBER OF SEQ ID NOS: 92
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                                                                                                               Sequence 42, Application US/10618281 Publication No. US20040219609A1 GENERAL INFORMATION:
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; SEQ ID NO 42
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                                ARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSS
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Sequence 1718, Application US/10408765A

Publication No. US20040101874A1

GENERAL INFORMATION:

APPLICANT: Ghosh, Soumitra S.

APPLICANT: Tahy, Eoin D.

APPLICANT: Cibson, Bradford W.

APPLICANT: Taylor, Steven W.

APPLICANT: Glbson, Bradford W.

APPLICANT: Glbson, Bradford W.

APPLICANT: Glbson, Bradford W.

APPLICANT: Glbson, Targers For THERAPEUTIC INTERVENTION

TITLE OF INVENTION: IDENTIFIED IN THE MITOCHONDRIAL PROTEOME

FILE REFERENCE: 660088.465

CURRENT APPLICATION NUMBER: US/10/408,765A

CURRENT APPLICATION NUMBER: US/10/408,765A

CURRENT FILING DATE: 2003-04-04

NUMBER OF SEQ ID NOS: 3077

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 1718

LENGTH: 1388

TYPE: PRT

ORGANISM: Homo sapiens
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Query Match  Best Local Similarity 88.0%; Pred. No. 0;  Best Local Similarity 88.0%; Pred. No. 0;  Matches 1349; Conservative 102; Mismatches 75; Indels 7; Gaps 5;  Matches 1349; Conservative 102; Mismatches 75; Indels 7; Gaps 5;  Qy 1 MALRSFCSADGSDPLWDWNVTWHTSNPDFTKCFQNTVLTWVPCFYLWACFPFVFLYLSRH 60  Qy 61 DRGYIQMTPLNKTKTALGFFLWIVCWADLFYSFWERSRGIFLAPVFLVSFTLLGITTLLA 120  Qy 61 DRGYIQMTHLNKTKTALGFFLWIICWADLFYSFWERSOGVLRAPVLLVSPTLLGITTLLA 120  Qy 121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180  Qy 121 TFLIQLERRKGVQSSGIMLTFWLVALLCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180  Qy 181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240  Qy 181 LLLIQLVLSCFSDRSPLFSETVHDRNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240  Qy 181 LVLVQLVLSCFSDCSPLFSETVHDRNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240  Qy 241 LWSLNKEDTSEQVVPVLVKWWKKECAKTRKQPVKVYS-SKDPAQPKESSKVDANEEVEA 299	## 853A-88  ## 88, Application US/09939853A  INFORMATION:  INFORMATION:  ## INVENTION: NO. US20040039163A1el Proteins and Nucleic PERENCE: 21402-099  ## PILING DATE: 2001-08-27  ## PILING DATE: 2001-08-25  ## PILING DATE: 2001-02-08  ## PILING DATE: 2001-02-08  ## PILING DATE: 2001-02-08  ## PILING DATE: 2001-02-09  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001-02-02  ## PILING DATE: 2001	Db 1039 SRSPVYSHFNETILIGVSVIRAFEBQERFIHOSDLKVDENQKAYYPSIVANRWLAVRLECV 1098  Qy 1207 GNCIVLFAALFAVISRHSLSAGLVGLSVSSLQVTTYLNWLVRMSSEMETNIVAVERLKE 1266  [
Qy 1079 ELDTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSR 1138 Db 1076 ELDTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSR 1138 Db 1076 ELDTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAVIIPPLGLIYFFVQRFYVASSR 1138 Qy 1139 QLKRLESVGRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRW 1198 Db 1136 QLKRLESVGRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRW 1198 Db 1136 QLKRLESVGRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRW 1198 Db 1136 LAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNI 1258 Db 1196 LAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNI 1258 Db 1196 LAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNI 1259 VAVERLKEYSETEKEAPWQIQETAPPSSWPQUGRVEFRNYCLRYREDLDFVLRHINVTIN 1318 Db 1256 VAVERLKEYSETEKEAPWQIQETAPPSSWPQUGRVEFRNYCLRYREDLDFVLRHINVTIN 1318 Db 1256 VAVERLKEYSETEKEAPWQIQETAPPSSWPQUGRVEFRNYCLRYREDLDFVLRHINVTIE 1315 Qy 1319 GGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITTIIPQDPV 1378 Db 1316 GGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGVNIAKIGLHDLRFKITTIIPQDPV 1378 DB 1316 GGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGVNIAKIGLHDLRFKITTIIPQDPV 1378 DB 1317 LFSGSLRYNLDPFSQYSDEEVWTSLELAHLKDFVSALPDXLDHECAEGGENLSVGQRQLV 1438	Qy 660 TIMGITESIPEGALVAVVGQVGCGKSSILSALLAEMDKVEGHVAIKGSVAYVQQAMIQN 719 Db 660 TIMGITESIPEGALVAVVGQVGCGKSSILSALLAEMDKVEGHVAIKGSVAYVQQAMIQN 719 Db 660 TIMGITESIPEGALVAVVGQVGCGKSSILSALLAEMDKVEGHVAIKGSVAYVQQAMIQN 719 Qy 720 DSLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLA 779 Qy 720 DSLRENILFGCQLEEPYYRAVMEACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLA 779 Db 720 DSLRENILFGHPLQENYYKAVMEACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLA 779 Qy 780 RAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVII 839 P80 RAVYSNSDIYLFDDPLSAVDAHVGKHIFEKVVGPMGLLKNKTRILVTHSMSYLPQVDVII 839 Qy 840 VMSGGKISEMGSYQELLARDGAFAFFLRTYASTEQEQDAEMGVTGVSGGKEAKOMENG 899	ט ט ט א א א א ז ז ז ז ז ז ז ז ז ז ז ז ז

Qy       262 KKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEALIVKSPQKEWNPSLFKVLYKTF       321	Ouery Match  G2.3%; Score 6068.5; DB 5; Length 1303;  Best Local Similarity 81.4%; Pred. No. 0;  Matches 1229; Conservative 17; Mismatches 57; Indels 207; Gaps 10;  Qy  22 WNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRHDRGYIQMTPLNKTKTALGFLL 81  [	RESULT 15  US-10-618-281-63  ; Sequence 63, Application US/10618281 ; Publication No. US20040219609A1 ; Publication No. US20040219609A1 ; Publication No. US20040219609A1 ; Publication No. US20040219609A1 ; APPLICANT: Day, Anthony G. APPLICANT: Lyons, Eric H. APPLICANT: Lyons, Eric H. APPLICANT: Lyons, Eric H. APPLICANT: Lyons, Eric H. APPLICANT: Lyons, Eric H. APPLICANT: Yao, Jian ITILE OF INVENTION: Methods for Modulating Proteins Not ITILE OF INVENTION: Methods for Modulating Proteins Not ITILE OF INVENTION: Methods for Modulating Proteins Not ITILE OF INVENTION: MUMBER: US/10/618,281 ; CURRENT APPLICATION NUMBER: US/10/618,281 ; CURRENT APPLICATION NUMBER: US/03-07-11 ; PRIOR APPLICATION NUMBER: US 60/395,325 ; PRIOR FILING DATE: 2002-07-12 ; NUMBER OF SEQ ID NOS: 92 ; SOFTWARE: FastSEQ for Windows Version 4.0 ; SEQ ID NO 63 ; SEQ ID NO 63 ; TYPE: PRT ; ORGANISM: Homo sapiens US-10-618-281-63	
Qy 1342 RIMESABGETITIOGINIAKIGHDLRFKITTIPQDPVLFSGSLRWNLDPFSQYSDBEWNT Db 1114 RIMESABGETITIOGINIAKIGHDLRFKITTIPQDPVLFSGSLRWNLDPFSQYSDBEWNT Qy 1402 SLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVD	1042 814 1102 874 1162 934 1222 1222 1282	582 582 742 642 802 702 862 725 922 922 726	Db 417 IKLWNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVCTPFLVA 476  Qy 562 LCTFAVYVTIDENNILDAQTAFVSLALFNILFFPLNILPMVISSIVQASVSLKRLRIFLS 621

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Sequence 968, Appl
Sequence 24, Appl
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Sequence 14, Appl
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Sequence 326, Appl
Sequence 1344, Appl
Sequence 575, Appl
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•	Sequence 124, App	Sequence 122, App	Sequence 132, App	Sequence 2686, Ap	ᢩ	Sequence 134, App	Sequence 284, App	1976,	0		Sequence 90, Appl	Sequence 2500, Ap	Sequence 1150, Ap	Sequence 600, App	Sequence 3202, Ap	Sequence 2910, Ap	•	Sequence 573, App	Sequence 336, App

ALIGNMENTS

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Score 2115; DB 7;
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87 ADLEYSFWERSRGIFLAPVFLVSPTLIGITTLLATFLIQLERRKGVQSSG 136 	QNTVLVWVPCFYLWACFPFYFL-YLSRHDRGYIQMTPLNKTKTALGFLLWIVG 8	Query Match 21.6%; Score 2101.5; DB 6; Length 1588; Best Local Similarity 31.8%; Pred. No. 6e-146; Matches 527; Conservative 305; Mismatches 564; Indels 263; Gaps 38;	LENGTH: 1588 TYPE: primer Homo sapiens ORGANISM: Homo sapiens 0-995-561-527	RRENT FILING DATE: 2004-11-24 MBER OF SEQ ID NOS: 85702 TTWARE: FastSEQ for Windows Version ID NO 527	TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPONSE, METHODS OF TITLE OF INVENTION: DETECTION AND USES THEREOF FILE REFERENCE: CL001559 CURRENT APPLICATION NUMBER: US/10/995,561	HISMS ASSOCIATED W	RESULT 3 US-10-995-561-527 ISequence 527, Application US/10995561	1496 RVIVLDKGEIQEYGAPSDLLQQR-GLFYSMAK 1526 	1436 QLVCLARALLEKTKIJVLDEATAAVDLETDDLIQSTIRTOPEDCTVLTIAHRLNTIMDYT 1495                      ::	1376 DPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQR 1435        :     :     :  :	1316 TINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQ 1375  :  : :      :  :     : :        :  :	1262 ERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINV 1315	1204 ECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAV 1261 	1144 ESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRL 1203	1084 DSMIPEVIKMEMGSLENVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRL 1143       : :       : :     : :     : :     : :       : :         : :	1024 ISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTV 1083	978 SIFLEMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALG 1023 
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US-11-090-439-26

Sequence 26, Application US/11090439

Publication No. US20050266442A1

GENERAL INFORMATION:

APPLICANT: Squillace, Rachel

APPLICANT: Weiner, Michael P.

TITLE OF INVENTION: Immortalized Human Tuberous Sclerosis Null

TITLE OF INVENTION: Angiomyolipoma Cell and Method of Use Thereof

FILE REFERENCE: 24318-502

CURRENT APPLICATION NUMBER: US/11/090,439

CURRENT APPLICATION NUMBER: 60/556,344

PRIOR APPLICATION NUMBER: 60/556,344

PRIOR FILING DATE: 2004-03-25

NUMBER OF SEQ ID NOS: 62

SOFTWARE: Patentin Ver. 2.1

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                CFSDRSPLFSET---IHDPNPCPESSASFL----SRITFWWITGLIVRGYRQPLEGS
                                                                           IMLTEWLVALVCALAILRSKIMTALKEDAQVDLFRDITF-----YVYFSLLLIQLVLS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DLWSLNKEDTSEQVVPVLVK---NWKKECAKTRKQPVKVVVSSKDPAQPKESSKVDANEE 296
                                                                                                                                                                                      VFSQLLKHMVLVAIDYWLAKWTDSALTLTPAARNCSLSQECTLDQTVYAMVFTVLCSLGI 1075
                                                                                                                                                                                                                                                                                                                                                                                                  NVIGPKGMLK-----NKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAFA 863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RSDPPTLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEG-----------
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SVSRSPVYSHFNETLLGVSVIRAFEBQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLE 1204
                                                             QHIPSTLECLSRSTLLCVSALAVISYVTPVFLVALLPLAVVCYFIQXYERVASRDLQQLD
                                                                                                                                                                                                                                                                                                               EHWKTLMN-RQDQELEKETVT----ERKATEPPQG-----LSRAMSSRDGL---
                                                                                                                                                                                                                                                                                                                                            EFIRTYASTEQEODAEENGVTGVSGPGKEAKQMENGMLVTDSAGKQLORQLSSSSSYSGD
                                                                                                                                                                                                                                                                                                                                                                            ----AGILELLRDDKRTVVLVTHKLQYLPHADWIIAMKDGTIQREGTLKDFQRSECQLF
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                                                                                        SMIPEVIKMEMGSLENVIGACIVILLATPIAAIIIPPLGLIYEFVQREYVASSRQLKRLE 1144
                                                                                                                                            SQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVD
                                                                                                                                                                                                                   IFLFMCNHVSALASNYWLSLWTDDPIV-----NGTQEHT-----KVRLSVYGALGI 1024
                                                                                                                                                                                                                                                   -----LÓDEÉEEEÉAAESEÉDDNLSSMLHQRAEIPWRACAKYLSSAGILLLSIL
                                                                                                                                                                                                                                                                                  ISRHHNSTAELQKAEAKKEETWKLMEADKA-----QTGQVKLSVYWDYMKAIGLFISFLS
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                                                                                                                          ---VLCLVTSVTVEWTGLKVAKRLHRSLLNRIILAPMRFFETTPLGSILNRFSSDCNTID
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Sequence 526, Application US/1099561

Publication No. US20050272054A1

GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS AS
TITLE OF INVENTION: CARDIOVASCULAR DISORDER
TITLE OF INVENTION: DETECTION AND USES THER
TITLE OF INVENTION: DETECTION AND USES THER
TITLE REFERENCE: CL001559
CURRENT APPLICATION NUMBER: US/10/995,561
CURRENT FILING DATE: 2004-11-24
NUMBER OF SEO ID NOS: 85702
SOFTWARE: FASTSEQ FOR Windows Version 4.0
SEQ ID NO 526
LENGTH: 1404
TYPE: PRT
ORGANISM: Homo sapiens
US-10-995-561-526
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US-10-995-561-526
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Best Local Similarity
Matches 369; Conser
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 AFDAQVRKDIQGTQGARAIWQALSHAFGRRLVLSSTFRILADLLGFAGPLCIFGIVDHLG
                                                                                                                                 VIRVRRYIFFKTPREVKÞ-ÞEDLQDLGVRFLQPFVNLLSKGTYWWMNAFIKTAHKKÞI--
                                                                                                                                                                                                                              IMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITF-----YVYFSLLLIQLVLS 189
                                                                                                                                                                                                                                                                                                                                                                     CFONTVLVMVPCFYLWACFPFYFL-YLSRHDRGYIQMTPLNKTKTALGF----LLWIVCW
                                 EVEALIVKSPQ-KEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFV-
                                                                  -DLRAIGK------LPIAMRALTNYQRLC---
                                                                                                                                                                 CFSDRSPLFSETIHDPNPCPES-----SASFLSRITFWWITGLIVRGYRQPLEG 238
                                                                                                                                                                                                  ALLVYWTLAFI-----TKTIKFVKFLDHAIGFSQLRFCLTGLLVILYGMLLLVE--VN
                                                                                                                                                                                                                                                                                                   ADLFYSFWERSRGIFLAPV-----FLVSPT----LLGITTLLATFLIQLERRKGVQSSG
                                                                                                                                                                                                                                                                                                                                       CFVDALNVVPHVFLLFITFPILFIGWGSQSSKVHIHHS----TWLHFPGHNLRWILTF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SDLWSLNKEDTSEQVVPVLVK---NWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANE 295
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                                                                                                                                                                                                                                                                                                                                                                                                       13.8%; Score 1341.5; D. larity 27.8%; Pred. No. 3e-90; Conservative 242; Mismatches 4
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GENETIC POLYMORPHISMS ASSOCIATED WITH
CARDIOVASCULAR DISORDERS AND DRUG RESPONSE,
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                                                                                                                                                                                                                                                                                                                                                                         SIFLEMCNHVSALASNYWLSLWTDDPIV-----NGTQEHT-----KVRLSVYGALG
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                                                                                                                                               DTTQLPLLSHFAETVEGLTTIRAFRYEARFQQKLLEYTDSNNIASLFLTAANRWLEVRM
                                                                                                                                                                                                                DQHIPSTLECLSRSTLLCVSALAVISYVTPVFLVALLPLAIVCYFIQKYFRVASRDLQQL
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                                                                                    -AIHRCM
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 Application US/10995561
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                                                                                     1257
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; Publication No. US20050272054A1
; GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: DETECTION AND USES THEREOF
; TILE REFERENCE: CL001559
; CURRENT APPLICATION NUMBER: US/10/995,561
; CURRENT FILING DATE: 2004-11-24
; NUMBER OF SEQ ID NOS: 85702
; SOFTMARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 969
           APPLICANT: MacKinnon, Roderick
APPLICANT: The Rockefeller University
APPLICANT: The Rockefeller University
TITLE OF INVENTION: Cation Channel Proteins, Mutant Prokaryotic Catio
TITLE OF INVENTION: Channel Proteins, and Uses Thereof
FILE REFERENCE: 018512-002901US
CURRENT APPLICATION NUMBER: US/10/613,744
CURRENT FILING DATE: 2003-07-03
PRIOR APPLICATION NUMBER: US/09/275,252
PRIOR FILING DATE: 1999-03-24
PRIOR APPLICATION NUMBER: US 09/045,529
PRIOR APPLICATION NUMBER: US 09/045,529
PRIOR APPLICATION NUMBER: US 09/054,347
PRIOR APPLICATION NUMBER: US 09/054,347
PRIOR APPLICATION NUMBER: US 09/054,347
PRIOR APPLICATION NUMBER: US 09/054,347
PRIOR APPLICATION NUMBER: US 09/054,347
PRIOR APPLICATION NUMBER: WO PCT/US99/06307
PRIOR FILING DATE: 1999-03-22
NUMBER OF SEQ ID NOS: 42
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-995-561-969
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Publication No. US20050272093A1
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                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
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PatentIn Ver.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILPMVISSIVQASVSLK
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQE
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Best Local Similarity
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TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NO 14
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                              1846
                                                                                                                                                                                                    1666 VTIGFGGRMVTEECPLAILILIVQNIVGLMINAIMLGCIFMKTAQAHRRAETLIFSKHAV 1725
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314
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                 ILWGQRFVPIVAEEDGRYSVDYSKFGNTIKVPTPLCTARQLDE 1888
                                                                           IFLVAPLIIYHVIDSNSPLYDLAPSDLHHHQDLEIIVILEGVVETTGITTQARTSYLADE 1845
                                                                                                                                                                                                                                                                                                          ILWGYRFTPVLTLEDGFYEVDYNSFHETYETSTPSLSAKELAE
                                                             LFLVSPLIISHEINQQSPFWEISKAQL-PKEELEIVVILEGMVEATGMTCQARSSYITSE
                                                                                                                          ISMRDGKLCLMFRVGDLRNSHIVEASIRAKLIKSKQTSEGEFIPLNQTDINVGYYTGDDR 254
                                                                                                                                             ITLRHGRLCFMLRVGDLRKSMIISATIHMQVVRKTTSPEGEVVPLHQVDIPMENGVGGNG
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Sequence 967, Application US/10995561

Publication No. US20050272054A1

REPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS AS
TITLE OF INVENTION: DETECTION AND USES THER
FILE REFERENCE: CL001559

CURRENT APPLICATION NUMBER: US/10/995,561
CURRENT TILING DATE: 2004-11-24 밁 á 멍 Ş ; TYPE: PRT ; ORGANISM: Homo US-10-995-561-967 US-10-995-561-967 NUMBER OF SEQ ID NOS: 85702 SOFTWARE: FastSEQ for Windows Version SEQ ID NO 967 Query Match 8.2%; Best Local Similarity 56.3%; Matches 151; Conservative 5 LENGTH: 268 61 1 MQDYAWTPKEAPWRLPTCAAQPPWPQGGQIEFRDFGLRYRPELPLAVQGVSFKIHAGEKV GIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGS GIVGRTGAGKSSLASGLLRLQEAAEGGIWIDGVPIAHVGLHTLRSRISIIPQDPILFPGS sapiens Michele et al.
GENETIC POLYMORPHISMS ASSOCIATED WITH
CARDIOVASCULAR DISORDERS AND DRUG RE DETECTION AND USES THEREOF 56; Score 799; DB 6; Pred. No. 1.5e-51; 6; Mismatches 61 DB 6; Length 61; Indels RESPONSE, 0; METHODS OF Gaps

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121

1444

LLRXTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKG

LRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARA

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LRMNLDLLQEHSDEAIWAALETVQLKALVASLPGQLQYKCADRGEDLSVGQKQLLCLARA

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RESULT 10
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CURRENT FILING DATE: 2003-07-03
PRIOR APPLICATION NUMBER: US/09/275,252
PRIOR FILING DATE: 1999-03-24
PRIOR APPLICATION NUMBER: US 09/045,529
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: US 09/054,347
PRIOR APPLICATION NUMBER: US 09/054,347
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: WO PCT/US99/06307
PRIOR FILING DATE: 1999-03-22
PRIOR FILING DATE: 1999-03-22
PRIOR FILING DATE: 1999-03-22
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Publication No. US20050272093A1
GENERAL INFORMATION:
APPLICANT: MacKinnon, Roderick
APPLICANT: The Rockefeller University
TITLE OF INVENTION: Assays for Screening Compounds which Interact With
TITLE OF INVENTION: Cation Channel Proteins, Mutant Prokaryotic Cation
TITLE OF INVENTION: Channel Proteins, and Uses Thereof
FILE REFERENCE: 01812-002901US
FILE REFERENCE: 01812-002901US
                                                       Sequence 326, Application US/10793626 Publication No. US20050255478A1 GENERAL INFORMATION:
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 13
APPLICANT: KIMMERLY, WILLIAM JOHN
TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS
FILE REFERENCE: PU3480US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
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                                                                                                                                                                                                                                      1858
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                                                                                                                                                                                               KTKEGKYRVDFHNFGKTVEVETPHC
                                                                                                                                                                                                                                    E-EDGRYSVDYSKFGNTIKVPTPLC 1881
                                                                                                                                                                                                                                                                                                                                                                                           RVGDLRKSMIISATIHMQVVRKTTSPEGEVVPLHQVDIPMENGVGGNGIFLVAPLIIYHV 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ECPLAILILIVQNIVGLMINAIMLGCIFMKTAQAHRRAETLIFSKHAVITLHHGRLCFML 1737
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LFGLLWYVVAYVHKDLPEFYPPDNRT--PCVENINGMTSAFLFSLETQVTIGYGFRFVTE
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                                                                                                                                                                                                                                                                                                                                                      RVANLRKSLLIGSHIYGKLLKTTITÞEGETIILDQTNINFVVDAGNENLFFISPLTIYHI
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                                                                                                                                                                                                                                                                         IDHNSPFFHMAAETL-SQQDFELVVFLDGTVESTSATCQVRTSYVPEEVLWGYRFVPIVS
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ilarity 46.2%;
Conservative 7
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Pred. No. 2.2e-50;
75; Mismatches 89
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                    AND PROTEINS
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US-10-467-657-1346
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                                                                                                                                                                       Sequence 1346, Application US/10467657
Publication No. US20050260581A1
                                                                                                                                                        GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                  APPLICANT: CHIRON SPA
APPLICANT: FONTANA Maria Rita
APPLICANT: PIZZA Mariagrazia
APPLICANT: MASIGNANI Vega
APPLICANT: MONACI Elisabetta
CURRENT APPLICATION NUMBER: US/10/467,657
                    FILE REFERENCE
                                    TITLE OF INVENTION: GONOCOCCAL PROTEINS AND NUCLEIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1312
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; OTHER INFORMATION: Description of Artificial Sequence: synthetic; OTHER INFORMATION: amino acid sequence US-10-793-626-326
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PRIOR FILING DATE: 1999-11-09
NUMBER OF SEQ ID NOS: 4472
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 326
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CURRENT FILING DATE: 2004-03-04
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TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1002 DPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPM 1061
                                                                                                                                                                                                                                                                             389 LVQQDNILFSDTVKENILLGRP--DATDDEVVEAAKMANAHDFISNLPNGYDTEVGERGV 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12 DGVIN---NHSLTNQEKFSHLGVAIGIALF----
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                                                                    NTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLF---YSM 1524
                                                                                                                                    KLSGGQKQRLSIARIFLNNPPVLILDEATSALDLESEAIIQEALDVLSKDRTTLIVAHRL
                                                                                                                                                                                              NLSVGQRQLVCLARALLRKTKILVLDBATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRL 1488
                                                                                                                                                                                                                                                                                                                                      IIPQDPVLFSGSLRMNL---DFFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGE 1428
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AINTVTDLGPIIVIGVGSYLAIT-GSITVGTLAAFVGYLEQLFGPLRRLVSSFTTLTQSF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLE 1204
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STITHADRIVVMENGRIVETGTHQQLINKRGAYEHLYSI 545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SQALAEVQGFLHERVQGMSVIKSFAIEDNEAKNFD---NHNKNFLQRAFQHTRWNAYSFA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EFIRQYLAQWTSNKILYDIRKQLYNHLQALSVRFYANNQVGQVISRVINDVEQTKDFILT 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5.3%; Score 514.5; DB 6; ilarity 27.1%; Pred. No. 3.5e-30; Conservative 110; Mismatches 211;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GOIDLKHVSFKYNENEKEVLH 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels 101;
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US-11-082-389-148
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US-10-467-657-1346
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PRIOR APPLICATION NUMBER: GB-0103424.8
PRIOR FILING DATE: 2001-02-12
NUMBER OF SEQ ID NOS: 9218
SOFTWARE: SeqWin99, version 1.04
SEQ ID NO 1346
                                                                                                                                                                                                                                                                                                                                  Sequence 148, Appropriate Publication No.
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                 GENERAL
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                                                                                                                                                                                                           APPLICANT:
            APPLICANT: Haberhauer, Gregor
TITLE OF INVENTION: CONYNEBACTERIUM GLUTAMICUM GENES ENCODING
TITLE OF INVENTION: INVOLVED IN MEMBRANE SYNTHESIS AND MEMBRA
TITLE OF INVENTION: TRANSPORT
FILE REFERENCE: BGI-131CPCN
CURRENT APPLICATION NUMBER: US/11/082,389
CURRENT FILING DATE: 2005-03-16
PRIOR APPLICATION NUMBER: US 9/603024
PRIOR APPLICATION NUMBER: US 9/603024
PRIOR APPLICATION NUMBER: US 60/141031
PRIOR FILING DATE: 2000-06-23
PRIOR FILING DATE: 1999-06-25
                                                                                                                                                                                                                                                  APPLICANT: Pompejus, Markus
APPLICANT: Kroger, Burkhard
APPLICANT: Schroder, Hartwi
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APPLICATION NUMBER: US 60/143262
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                                                                                                                                                                                                                                                                                                                 INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            380
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YLNWLVRMSSEMETNIVAVERLKEYSETEKE-----APWQIQETAPPSSWPQVGRVEFR 1296
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                                                                                                                                                                                                                                Zelder, Oskar
                                                                                                                                                                                                                                                    Schroder, Hartwig
                                                                                                                                                                                                                                                                                                                                  Application US/11082389
o. US20050244935A1
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%; Pred. No. 1e-28;
106; Mismatches 2
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                                                                                                                                                                                           PROTEINS
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RESULT 13
US-10-995-561-575
; Sequence 575, Applicat
; Publication No. US2005
; GENERAL INFORMATION:
; APPLICANT: CARGILL, M
; TITLE OF INVENTION:
; TITLE OF INVENTION:

Application US/10995561 5. US20050272054A1

MICHEIE ET al.
GENETIC POLYMORPHISMS ASSOCIATED WITH
CARDIOVASCULAR DISORDERS AND DRUG RES
DETECTION AND USES THEREOF

AND DRUG RESPONSE,

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PRIOR APPLICATION NUMBER: DE 19941379.7
PRIOR FILING DATE: 1999-08-31
Remaining Prior Application data removed NUMBER OF SEQ ID NOS: 446
SEQ ID NO 148
LENGTH: 549
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Best Local Similarity
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PRIOR FILING DATE: 1999-07-08
PRIOR APPLICATION NUMBER: DE 19931550.7
PRIOR FILING DATE: 1999-07-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION NUMBER: DE 19930489 PRIOR FILING DATE: 1999-07-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: DE 19930487.4 PRIOR FILING DATE: 1999-07-01
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 60/151281 FILING DATE: 1999-08-27
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                                          1477
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1031 FGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFER-----TPSGNLVNRFSKELDTVD 1084
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PDATKLIVÁQRVSTIRDADQIVVLDNGEVVGIGTHTNLLNTCGTY 535
                                                                                                                                                                                                                                                                                                                                                                       LNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQET-APPSSWPQVGRVEFRNYCLRY 1302
                                                                                                                                                                                                                                                                                                                                                                                                                NLMALMFPAVM----LIMNLSAVA---VIWFGAFQVESGET-QIGTLFAFLQYIMQILMG
                                  EDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLF 1521
                                                                                   EGLDSETAQGGTNVSGGQRQRLATARALLKQPETYTFDDSFSALDVSTDAALRRALSTNL
                                                                                                          DKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQF
                                                                                                                                                                 EPLKLWDRIGLVPQKSFLFSGTIASNL----RYGNEDATETQLWQALAIAQAADFVREMP
                                                                                                                                                                                                        GLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSDE----EVWTSLELAHLKDFVSALP 1416
                                                                                                                                                                                                                                              PGADDPVLNNVSFRVAPGSTTATIGSTGSGKTTL-IGLVPRLFDVTEGDVTVDGTDVREF
                                                                                                                                                                                                                                                                                    REDLDFYLRHINVTINGGEKVGIVGRTGAGKSSLTLGLF-RINESAEGEIIIDGINIAKI 136
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                                                                                                                                                                                                                                                                                                                               VMMAAFMFVMVPRAAVSADRIGEVLETTPSV--QAPETPAQPST--SAGEIVFNNATFAY
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26.9%; Pred. No. 8.3e-27;
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GENERAL INFORMATION:

APPLICANT: CARGILL, Michele et al.

TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH

TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPONDENTIFILE OF INVENTION: DETECTION AND USES THEREOF

FILE REFERENCE: CL001559

CURRENT APPLICATION NUMBER: US/10/995,561

CURRENT FILING DATE: 2004-11-24

NUMBER OF SEQ ID NOS: 85702

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 574

LENGTH: 808
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US-10-995-561-574
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; ORGANISM: Homo
US-10-995-561-575
                                                                                                                                                                                                                                  Sequence 574, Application US/10995561 Publication No. US20050272054A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILE REFERENCE: CL001559
CURRENT APPLICATION NUMBER: US/10/995,561
CURRENT FILING DATE: 2004-11-24
NUMBER OF SEQ ID NOS: 85702
SOFTWARE: FASUSEQ for Windows Version 4.0
SEQ ID NO 575
LENGTH: 701
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     TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IGLHDLRFKITIIPQDPVLFSGSLRMNL--DPFSQYSDEEVWTSLELAHLKDFVSALPDK 1418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PHRPDV-LVLQGLTFTLRPGEVTALVGPNGSGKSTVAALLQNLYQPTGGQLLLLDGKPLPQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -- REDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAK 1360
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YEHRYLHRQVAAVGQEPQVFGRSLQENIAYGLTQKPTMEEITAAAVKSGAHSFISGLPQG
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25.2%; Pred. No. 4.8e-23;
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US-11-105-268-53
; Sequence 53, Application US/11105268
; Publication No. US20050260204A1
; GENERAL INFORMATION:
                                                                                                                                                                               US-11-105-268-53
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US-10-995-561-574
                                                           Matches 149;
                                                                                                                                                                                                                                                                                            SOFTWARE: PASEQ ID NO 53
                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 149;
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                              APPLICANT: Allan, Christian
TITLE OF INVENTION: ANTI-IL-9 ANTIBODY FORMULATIONS AND USES
FILE REFERENCE: 10271-126-999
CURRENT APPLICATION NUMBER: US/11/105,268
CURRENT FILING DATE: 2005-04-12
PRIOR APPLICATION NUMBER: 60/561,845
PRIOR FILING DATE: 2004-04-12
NUMBER OF SEQ ID NOS: 60
                                                                                                                                                                                                    LENGTH: 808
TYPE: PRT
ORGANISM: Homo
                                                        y Match
4.3%; Score 419.5; DB 7;
Local Similarity 25.2%; Pred. No. 5.9e-23;
hes 149; Conservative 130; Mismatches 234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1247
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               418
977 LSIFLFM--CNHVSALASNYWLSLWTDDFIVNGTQEHTKVRLSVYGALGISQGIAVFGYS 1034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
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                                                                                                                                                                                                                                                                                                                           PatentIn version 3.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IGLHDLRFKITIIPQDPVLFSGSLRMNL--DPFSQYSDEEVWTSLELAHLKDFVSALPDK 1418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PNRPDV-LVLQGLTFTLRPGEVTALVGPNGSGKSTVAALLQNLYQPTGGQLLLLDGKPLPQ 631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSS----WPQVGRVEFRNYCLRY 1302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ANRW-----LAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNW 1246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --ESLAKSSQVA--IEALSAMPTVRSFANEEGEAQKFREKLQEIKTLNQKEAVAY----A 469
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ERYSRSVLLITQHLSLVEQADHILFLEGGAIREGGTHQQLMEKKGCYWAMVQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDE----NQK---AYYPSIV 1194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SENLSLELWYL -- VRGLCLLGIMLWGSVSLTMVTLITLPLLFLLPKKVGKWYQLLEVQVR 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LSLFLVLVVLSSLGEMAIPFFTGRLTDWILQDGSADTFTRNLTLMSILTIASAVLEF---
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                                                        Indels
                                                                                                                Length 808;
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QFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLFYSMAK 1526 :	LDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRT 1474	IGLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDK 1418	REDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAK 1360 	LVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRY 1302 	ANRWLAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNW 1246	RLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIV 1194   :::	PEVIKMFMGSLENVIGACIV-ILLATPIAAIIIPDLGLIYFFVQRFYVASSRQLK 1141   :   :   :   :   :   :   :   :   :	MAVSIG-GILASRCLHVDLHSILRSPMSFFERTPSGNLVNRFSKELDTVDSMI 1087  VGDGIYNNTMGHVHSHLQGEVFGAVLRQETEFFQQNQTGNIMSRVTEDTSTLSDSL 359	:   : : :  ::    ::    ::    ::    ::    ::    ::    ::      : :    ::    ::    ::    ::    ::    ::    ::

Search completed: December 15, 2005, 15:50:09 Job time : 11.1294 secs

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Minimum
Maximum
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Perfect score:
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9734
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Maximum Match 100%
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Ady86943 MRP1-mous
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25
7002.5	7002.5	7002.5	7002.5	7037	7194	7195.5	7230.5	7500.5	7510.5	7535	7560.5	7572	7587.5	7587.5	7610	7763	7849	7849	7849	7849
71.9	71.9	71.9	71.9	72.3	73.9	73.9	74.3	77.1	77.2	77.4	77.7	77.8	77.9	77.9	78.2	79.8	80.6	80.6	80.6	80.6
1528	1528	1528	1528	1388	1417	1416	1530	1472	1472	1475	1482	1481	1482	1482	1489	1515	1531	1531	1531	1531
ω	N	N	N	7	N	9	7	N	9	9	N	ഗ	œ	ω	N	ω	w	w	w	N
AAY55800	AAW99895	AAW74472	AAW57487	ADJ69912	AAR96955	ADX06208	ADF56611	AAR96954	ADX06204	ADX06206	AAR96953	ABP52108	ADP23422	ADN03902	AAR96952	ADU24094	AAB03582	AAY78872	AAY55798	AAW99893
Aay55800	Aaw99895	Aaw74472	Aaw57487	Adj69912	Aar96955		Adf56611	Aar96954	Adx06204	Adx06206		Abp52108	Adp23422	Adn03902	Aar96952	Adu24094		Aay78872	Aay55798	Aaw99893
Murine mu	Mouse mul	Mouse mul	Murine mu	Human hea	Multi-dru	Cyclin-de	Bovine MR	Multi-dru	Cyclin-de	Cyclin-de	Multi-dru	Ното варі	PRO polyp	Antipsori	Multi-dru	Human cys	Multidrug	Human mul	Human mul	Human mul

ALIGNMENTS

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RESULT 1
ADY86941
Key
Region
                                                                                                                   22-SEP-2003; 2003US-00665283
                                                                                                                                  24-MAR-2005.
                                                                                                                                                US2005063989-A1.
                                                                                                                                                                     Region
                                                                                                                                                                                    Region
                                                                                                                                                                                                                         Chimeric
                                                                                                                                                                                                                               Homo sapiens.
Mus musculus.
                                                                                                                                                                                                                                                     Ionophore; biosensor; drug screening; diagnostic;
microorganism detection; potassium channel; fusion protein;
multidrug resistance protein 1; MRP1; Kir6.2; mutein.
                                                                                                                                                                                                                                                                                   Human MRP1-Kir6.2 mutant
                                                                                                                                                                                                                                                                                                  02-JUN-2005
                                                                                                                                                                                                                                                                                                                ADY86941;
                                                                                                                                                                                                                                                                                                                             ADY86941 standard; protein; 1891 AA.
                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                     1532. .1537
/note= "Hexaglycine spacer"
1538. .1891
                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                         /note= "Multidrug resistance
                                                                                                                                                              note= "Kir6.2 mutant deltaC36 protein"
                                                                                                                                                                                                                                                                                  deltaC36 fusion
                                                                                                                                                                                                                                                                                  protein,
                                                                                                                                                                                           protein 1 (MRP1)"
                                                                                                                                                                                                                                                                                   SEQ
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New ion channel hybrid protein, used as electrical sensor for an agonist/antagonist of a membrane protein and for detecting contaminant/pollutant in a sample.

screening

WPI; 2005-252611/26.

Derand R,

Garcia E,

Prost A,

Revilloud

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Vivaudou

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(COMS ) COMMISSARIAT ENERGIE ATOMIQUE

22-SEP-2003; 2003US-00665283

The present invention relates to a hybrid protein consisting essentially

Claim 25; SEQ ID NO 4; 78pp; English.

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Query Match
Best Local S
Matches 1891
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                                                                                                                                                                                                                                                                                                                                       MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
MSGGKI SEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGYTGVSGPGKEAKQMENGM
                                                                                                                                                    LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
                                                                                                                                                                                                                                      KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP
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                                                     AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
                                                                                        SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
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                                       LNGITES
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ilarity 100.0%;
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                                                    GRYSVDYSKFGNTIKVPTPLCTARQLDEDRS
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                                                                                                                                                                                                                                                                                                                                                     an agonist/antagonist contaminant/pollutant
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                    /note= "Multidrug resistance 1532. .1537 /note= "Hexaglycine spacer" 1538. .1927
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The present invention relates to a hybrid protein consisting essentially of the fusion of a membrane protein with an ion channel which is not naturally coupled to the membrane protein. The hybrid protein is used as an electrical sensor for screening of an agonist/antagonist of a membrane protein, drugs and for detecting a contaminant/pollutant in a sample. The invention is also useful for medical diagnostics and microorganism detection. The present sequence is a fusion protein comprising human multidrug resistance protein 1 (MRP1) and mouse inner rectifier potassium
                                multidrug resistance prochannel Kir6.2 protein.
                                                                                                                                                                                                                                      New ion channel hybrid protein, used as electrical sensor for
an agonist/antagonist of a membrane protein and for detecting
contaminant/pollutant in a sample.
Sequence 1927
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                                                                                                                                                                                                           Claim 25; SEQ ID NO 1; 78pp; English.
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Query Match Best Local Similarity 1891; 481 481 421 421 361 361 301 301 241 241 181 181 121 121 61 61 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS IVKS PQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMPSGPQILKLLIKFVNDTKAPD LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD DRGYIOMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 100.0%; ilarity 100.0%; Conservative 0 0, Score 9734; Pred. No. 0; Mismatches B 9; 0, Indels Length 1927; 0; Gaps 540 180 120 60 600 540 480 480 420 420 360 360 300 300 240 240 180 120

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The present invention relates to a hybrid protein consisting essentially of the fusion of a membrane protein with an ion channel which is not naturally coupled to the membrane protein. The hybrid protein is used as an electrical sensor for screening of an agonist/antagonist of a membrane protein, drugs and for detecting a contaminant/pollutant in a sample. The

Claim

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                                                                                                                                                        New ion channel hybrid protein, used an agonist/antagonist of a membrane prontaminant/pollutant in a sample.
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                                         MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM
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LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL
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                              MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM
                                                                     AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
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08-MAR-1993;
26-OCT-1993;
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                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA encoding protein associated with multi-drug resistance - useful as probe for identifying multi-drug resistant tumour cells.
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resistance, particularly those displaying resistance to anthracyclines, epipodophyllotoxins, vinca alkaloids, and hydrophobic drugs. The methods for inhibiting/killing a MDR tumour cell can be useful for treating breast cancer, leukaemias, fibrosarcomas, cervical cancer, gliomas, thyomas, neuroblastomas and lung cancer. The MDR DNA sequences when labeled are useful as molecular probes for diagnosing multidrug resistance of a tumour (using cells from a tumour biopsy) and for designing ribozymes which are capable of cleaving a single-stranded nucleic acid encoding a protein having MRP activity. Recombinant expression vectors containing human MDR coding sequences can be transfected into a drug sensitive cell line to produce a protein in the cell which confers MDR, protecting non-resistant non-tumour cells from the effects of chemotherapeutics has major clinical importance. Cells transformed with the MDR coding sequences are useful for testing
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potential therapeutic agents for their effectiveness against and for identifying chemosensitisers of a therapeutic agent MDR

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MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVN GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVN LWSLNKEDTSEQVVPVLVKWWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL LILIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA 120 MALRGFCSADGSDFLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILF AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD LMSLNKEDTSEQVVPVLVKOWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR MVISSIVQASVSLKRIRIFLSHEELEPDSIERRPVKDGGGTNS KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND 80.7%; ilarity 100.0%; Conservative 0, Score 7860; Pred. No. 0; Mismatches 0, Indels 0, Gaps 60 840 780 660 600 600 540 540 480 480 420 360 360 300 300 240 960 900 900 780 720 720 660

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93US-00029340.
93US-00141893.
95US-00407207.
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Protecting mammalian cells 2; Col English against cytotoxic

protein (MRP). The present invention also describes a method for protecting a mammalian cell against the cytotoxicity of anthracyclines, epipodophyllotoxins and Vinca alkaloids (A) by introducing into it a nucleic acid (I) that hybridizes under stringent conditions to a nucleic acid (II) that encodes an MRP protein (III). Introduction of (I) protects cells against cytotoxic effects of (A), particularly to protect normal cells against (A) being used for treatment of cancers. Cells transformed with (I) can be used to screen for agents that affect multidrug resistance or are directly toxic to multidrug resistant cells, i.e. potential therapeutics for multidrug-resistant cancers. Conferring resistance to normal cells should allow an increase in the dose of (A) that can be administered safely sequence represents a sents a human multidrug resistance-associated invention also describes a method for

Sequence 1531 AA;

Query Match Best Local :

DB 2;

Length 1531;

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Matches
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100.0%; Pro
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                                      Chemosensitizer; multidrug resistance-associated protein; MRP; human; therapeutic agent; P-glycoprotein-mediated multidrug resistance; lung;
           Homo
                             cancer;
                                                                                        28-FEB-2000
                                                                                                            AAY55799;
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08-MAR-1993;
26-OCT-1993;
20-MAR-1995;
                                                                                                                                                                                                                                                                                                                                                         The invention provides a method for identifying a substance which is a chemosensitizer that comprises, contacting a cell transfected with nucleic acid encoding multidrug resistance-associated protein (MRP) with a therapeutic agent in vitro. The method is useful for identifying chemosensitizers which may then be used to treat cancer (especially lung cancer). The method allows the identification of chemosensitizers which do not reverse P-glycoprotein-mediated multidrug resistance. The present sequence represents a human MRP variant
                                                                                                                                                                                                                                                                                                                                       Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Identification of chemosensitizers useful for treating cancer, using nucleic acids encoding multidrug resistance-associated protein.
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                                         IVKSPQKEWNPSLFKVLYKTEGPYFLMSFFFKAIHDLMFSGPQILKLLIKFVNDTKAPD
                                                                                                                                       LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
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                                                                                    LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL
                                                                                                LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANGEVEAL
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CC natural variant amino acid sequence. The human MRP confers multidrug
CC resistance, including resistance to at least two drugs selected from
CC anthracyclines, epipodophyllotoxins and Vinca alkaloids, on a drug
CC sensitive mammalian cell, when the protein is expressed in the cell. The
CC multidrug resistance is not substantially reversed by chemosensitizers
CC which reverse P-glycoprotein-mediated multidrug resistance. The MRP
CP protein sequence can be used to generate antibodies against MRP. The WRP
CP protein and nucleotide sequences can be used in compositions which are
CC compositions and methods of the invention can be used particularly to
CP treat breast cancer, leukaemias, fibrosarcomas, cervical cancer, gliomas,
CC thymonas, neuroblastomas, and lung cancer. Antibodies directed against
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20-MAR-1995;
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                                                                                                                                                                                                                                                                                      Sequence
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N-PSDB; AAZ90193.
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The present invention relates to methods of detecting a prostate can associated transcript in a cell from a patient. The method comprises contacting a biological sample from the patient with prostate cancer

27; Page 309; 436pp;

English.

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16-APR-2001

24-APR-2001

30-APR-2001

30-APR-2001
                                                                                                                                    Detecting a prostate cancer-associated transcript in a cell in a patient, useful for diagnosing prostate cancer (PC) or screening modulators of PC, by determining if prostate cancer-associated genes are expressed in a prostate tissue.
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DXGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
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                                                                             ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL
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standard; protein; 1531 B

(first entry

based on CYP3AS related protein SEQ ij NO:678

Cancer; CYP3A5; i cytochrome p450; cytostatic. irinotecan;
; subfamily ] pharmaceutical; malignant IIIA; nifedipine oxidase; p t glioma; polypeptide 5

23-JUL-2002; 2002WO-EP008219

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CC The present invention describes the use of irinotecan (I) or its derivative for the preparation of a pharmaceutical composition for CC treating colorectal, cervical, gastric, lung, ovarian or pancreatic CC cancer, or malignant glioma in a subject having a genome with a variant allele which comprises a cytochrome p450, subfamily IIIA (nifedipine CC oxidase), polypeptide 5 (CYP3AS) polymuclectice (II). (I) and (II) have CC cytostatic activity. The therapeutic applications of (I) is improved, CC since it is possible to individually treat a subject with an appropriate CC dosage and/or an appropriate derivative of (I). Therefore, undesirable, CC harmful or toxic effects are efficiently avoided. Unnecessary and CC treatment with substances (nonresponders), as well as the development of CC drug resistances due to suboptimal drug dosing can be avoided. ACF82200 CC to ACF82751 and ABM34912 to ABM35013 represent sequences used in the exemplification of the present invention
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Best Local
Matches 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New use of irinotecan for preparation of compositions for treating in subject having genome with variant allele comprising cytochrome subfamily IIIA, polypeptide 5 polynucleotide, termed CYPJA5.
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24-MAY-2002;
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                                                                 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
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                                                                                                                           WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVIINSARKSSTV
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               AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK
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2002EP-00011710.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Use of irinotecan or its derivative for preparation of a pharmaceutical composition for treating cancer in a subject having a genome with a variant allele comprising a multidrug resistance protein 1 polynucleotide.
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lung cancer; ovarian cancer; pancreatic cancer;
variant allele; multidrug resistance protein 1;
                                                                                                                                                                                                                                                                                                                      Sequence
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Matches 1531; Conserv
                                                                                                                                                                       The invention relates to the novel use of irinotecan to treat a patient suffering from cancer. This involves determining if the patient has one or more variant alleles of the UGTIA1 gene, and if the patient has one or more of such variant alleles, irinotecan is administered in an increased or decreased amount in comparison to the amount that is administered without regard to the patient's alleles in the UGTIA1 gene. The invention has cytostatic activity. A composition of the invention acts as a topoisomerase I inhibitor. The method is useful for treating a patient, an animal e.g. mouse or a human, preferably African or Asian, suffering from cancer such as colorectal, cervical, gastric cancer, lung, ovarian, pancreatic cancer or malignant glioma. The present sequence is udes in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          irinotecan; cancer; UGTIA1; cytostatic; topoisomerase I inhibitor; colorectal cancer; cervical cancer; gastric cancer; lung cancer; ovarian cancer; pancreatic cancer; malignant glioma; uridine diphosphate glycosyltransferasel member Al.
                                                                                                                                                                                                                                                                                                                                                                                                  Use of irinotecan to treat cancer patient by determining if patient has variant alleles of UGT1A1 gene, administering increased/decreased amounts of irinotecan based on increased/decreased levels of UGT1A1 gene product.
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The invention relates to the novel use of irinotecan or its derivative for the preparation of pharmaceutical compositions for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject having a genome with a variant allele which comprises a multidrug resistance 1 (MDR1) polynucleotide. A composition of the invention has cytostatic activity. The invention is useful for the preparation of pharmaceutical compositions for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant
                                                                                                                                                                                                        New use of irinotecan for preparation of pharmaceutical compositions for treating cancer in subject having genome with variant allele comprising multidrug resistance 1 polynucleotide.
                                                                                                                                                                           Disclosure;
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24-MAY-2002;
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lung cancer; ovarian cancer; pancreatic cancer; malignant glioma;
multidrug resistance 1; MDR1; cytostatic; human; Cyp3A5; MRP1; MDR1;
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                                                                                                                                                                 n; colorectal cancer; cervical cancer; gastric cancer; er; ovarian cancer; pancreatic cancer; malignant glioma; resistance 1; MDR1; cytostatic; human; UGT1A1; MRP1; TOP1.
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New use of irinotecan for preparation of pharmaceutical compositions for treating cancer in subject having genome with variant allele comprising multidrug resistance 1 polynuclectide.

Disclosure; SEQ ID NO 678; 104pp; English.

The invention relates ro a novel use of irinotecan or its derivative the preparation of a pharmaceutical composition for treating colorect cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject having a genome with a variant allele which compa a multidrug resistance 1 (MDR1) polynucleotide. A composition of the invention has cytostatic activity. The present sequence is used in the exemplification of the fixenericm exemplification of the invention. colorectal, comprises

Sequence 1531 AA;

Similarity

80.7%; ilarity 100.0%; Conservative

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Score 7860; Pred. No. 0; Mismatches

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AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
                                   SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEI
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DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531	DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531	ARALLEKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500	ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500	SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440	SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440	EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF 1380	EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF 1380	VERLKEYSETEKEAPMQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1320	VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1320	VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260	VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260	KRLESVSRSPVYSHFNETLLGVSVIRAFEBQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200	KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200	DTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQL 1140	DTVDSMIPEVIKMFMGSLENVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQL 1140	ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL 1080	ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL 1080	SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG 1020	SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG 1020	LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL 960	LVTDSAGKQLQRQLSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL 960	MSGGKISEMGSYQELLARDGAFAEFIRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM 900	MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGYTGVSGPGKEAKQMENGM 900	AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840

Search completed: December 15, 2005, 15:17:10 Job time : 180.071 secs

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A;Gene: GDB:MRP
A;Gene: GDB:MRP
A;Cross-references: GDB:136335; OMIM:158343
A;Map position: 16p13.1-16p13.1
A;Map position: multidrug resistance protein cMOAT2; ATP-binding cassette homology C;Superfamily: human multidrug resistance; ATP; duplication; nucleotide binding; P-loop; transmer; 651-844/Domain: ATP-binding cassette homology <ABC1>F;678-685/Region: nucleotide-binding motif A (P-loop)
F;788-792/Region: nucleotide-binding motif B
F;1310-1503/Domain: ATP-binding cassette homology <ABC2>F;1327-1334/Region: nucleotide-binding motif A (P-loop)
F;1450-1454/Region: nucleotide-binding motif B
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A;Molecule type: mRNA
A;Residues: 1-60 <CO2>
A;Cross-references: UNIPARC:UPI00001746CC; GB:L05628; NID:g1835658
A;Cross-reference extracted from NCBI backbone (NCBIP:131929)
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(;Date: 30-Jun-1993 #sequence revision 05-Dec-1998 #text_change 19-Jan-2001
(;Accession: A44231; A37495
R;Gole, S.P.C.; Bhardwal, G.; Gerlach, J.H.; Mackie, J.E.; Grant, C.E.; Almquist, K.C.; A;Gole, S.P.C.; Bhardwal, G.; Gerlach, J.H.; Mackie, J.E.; Grant, C.E.; Almquist, K.C.; A;Gience 258, 1650-1654, 1992
A;Title: Overexpression of a transporter gene in a multidrug-resistant human lung cance A;Reference number: A44231; MUID:93088080; PMID:1360704
A;Accession: A44231
A;Status: nucleic acid sequence not shown
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A;Residues: 'MAPTRSGRIBATPTSPSAFRTRSSCGCLVFTSGPV',50-1531 <CO1>
A;Residues: 'MAPTRSGRIBMSRGIPATPTSPSAFRTRSSCGCLVFTSGPV',50-1531 <CO1>
A;Cross-references: UNIPARC:UPI00001746CB; GB:L05628; NID:g1835658
A;Cross-references: uniparc: small cell lung carcinoma cell line H69AR
A;Rote: sequence extracted from NCBI backbone (NCBIP:119851); this sequence has been
A;Note: sequence extracted from NCBI backbone (NCBIP:119851); this sequence has been
A;Cole, S.P.C.; Deeley, R.G.
Science 260, 879, 1993
A;Title: Multidrug resistance-associated protein: sequence correction.
A;Reference number: A37495; MUID:93262415; PMID:8098549
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                                       ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL
                                                                                                                          SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG
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             KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
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C;Species: Homo sapiens (man)
C;Species: 05-Feb-1999 #sequence_revision 05
C;Accession: JE0336
R;UChiumi, T.; Hinoshita, E.; Haga, S.; N
Biochem. Biophys. Res. Commun. 252, 103-1
A;Title: Isolation of a novel human canal
A;Reference number: JE0336; MUID:99032812; PMID:9813153
A;Accession: JE0336
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-1527 <UCH>
A;Cross-references: UNIPROT:015438; UNIPARC:UPI0000169859; GB:AF083552
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cC;Keywords: ATP
F;1306-1499/Domain: ATP-binding cassette homology <ABC2>
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Query Match Best Local S Matches 871 cal Similarity 871; Conser 248 187 188 127 128 67 83 7 œ EWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPDWQGYFYT SADGSDPLWDWNVTWNTSNPDFTKCPQNTVLVWVPCFYLWACFPFYFLYLSRHDRGYIQM 46.1%; Score 4484.5; DB 2; ilarity 56.6%; Pred. No. 5.4e-295; Conservative 261; Mismatches 372; VPDLTPCFQNSLLAWVPCIYLWVALPCYLLYLRHHCRGYIIL Indels Length 35; Gaps 307 186 187 127 246 126 99

R-KPSFLKALLATFGSSFLISACFKLIQDLLSFINPQLLSILIRFISNPMGPSWWGFLVA

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VGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTI 149:
                                                              IIPQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLS
                                                                                                                         DLSLHVHGGEKVGIVGRTGAGKSSMTLCLFRILEAAKGEIRIDGLNVADIGLHDVRSQLT
                                                                                                                                                                                                                                 SEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLR 131:
                                                                                                                                                                                                                                                                                       YIISNRWLSIGVEFVGNCVVLFAALFAVIGRSSLNPGLVGLSVSYSLQVTFALNWMIRMM
                                                                                                                                                                                                                                                                                                               SIVANRWIAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMS 125:
                                                                                                                                                                                                                                                                                                                                                                       FYVASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYP 119:
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                                      I PODPILESGTLEMNLDPEGSYSEEDIWWALELSHLHTFVSSQPAGLDFQCSEGGENLS
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RESULT 3
S7.1841
multidrug resistance protein, canalicular - human
C;Species: Homo sapiens (man)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #t(
C;Accession: S71841; S7.1840
R;Koenig, J; Keppler, D.
submitted to the EMBI Data Library, August 1996
A;Reference number: S71841
A;Accession: S71841
A;Accession: S71841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Gene: GDB:ABCC2; CMOAT; ABC; MRP2; cMRP; DJS
A;Cross-references: GDB:6089489; OMIM:601107
A;Map position: 10q24-10q24
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology
C;Keywords: ATP; glycoprotein; nucleotide binding; P-loop; transmembrane protein
F;654-837/Domain: ATP-binding cassette homology <ABC1>
F;671-678/Region: nucleotide-binding motif A (P-loop)
F;1317-1510/Domain: ATP-binding cassette homology <ABC2>
F;1334-1341/Region: nucleotide-binding motif A (P-loop)
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A;Cross-references: UNIPARC:UPI00001746CD; EMBL:X96395; NID:g1507819; PIDN:CAA65259.1;
R;Buechler, M.; Koenig, J.; Brom, M.; Kartenbeck, J.; Spring, H.; Horie, T.; Keppler, D.
Biol. Chem. 271, 15091-15098, 1996
A;Title: cDNA cloning of the hepatocyte canalicular isoform of the multidrug resistance
A;Reference number: $71839; MUID:96279006; PMID:8662992
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A;Residues: 1415-1429,'VP',1432-1455,'E',1457-1545
A;Cross-references: UNIPARC:UPI00001746CE; EMBL:X36
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A;Status: nucleic acid sequence not
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                                                                                                                                                                                                                                                                                                                                                                            TTLLATFLIQLERRKGVQSSGIMLT-FWLVALVCALAILRSKIMTALKEDAQVDLFRDIT
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                                         FSGPQILKLLIKFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAV 399
                                                                                                                              PAQPKESSKVDANEEVEALIVKSPQKEWNPS--LFKVLYKTFGPYFLMSFFFKAIHDLMM
                                                                                                                                                                                                                                                             FFISYGFQILILIFSAFSEN------NESSNNPSSIASFLSSITYSWYDSIILKGYKR
                                                                                                                                                                                                                                                                                                       FYVYFSLLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQ
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                                                                                                                                                                                                                 Conservative
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47.5%; Pred. No. 3.7e-234;
tive 286; Mismatches 461;
                                                                                     EDVEKKKKKSGTKKDVPKSWLMKALFKTFYMVLLKSFLLKLVNDIFT
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EMBL:X96395
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                                                                  WTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAA 1459
                                                                                                                              LFRINESAEGEIIIDGINIAKIGLHDLRFKITIIFQDFVLFSGSLRMNLDFFSQYSDEEV
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 VDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRG
                                                                                                           LFRILEAAGGQIIIDGVDIASIGLHDLREKLTIIPQDPILFSGSLRMNLDPFNNYSDEEI
                                                                                                                                                                                   DKRPPPDWPSKGKIQFNNYQVRYRPELDLVLRGITCDIGSMEKIGVVGRTGAGKSSLTNC
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                                                                       VDANEEVEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLI 350
                                                                                                                                             SLNK----EDTSEQVVPVLVKN-----WKKECAKTRKQPVKVVVS-SKDPAQPKESSK 290
                                                                                                                                                                                                                                                         KFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVI 410
                                                                                                           DIDEGFKTRSVTSKFEAAMTKDLQKARQAFQRRLQKSQRKPEATLHGLNKKQSQSQDVLV
                                     LEEAKKKSEKTTKDYPKSW----LIKSLFKTFHVVILKSFILKLIHDLLVFLNPQLLKLLI
                                                                                                                                                                                 IVLLILTAFSGPS-----DSTQTPSVTASFLSSITFSWYDRTVLKGYKHPLTLEDVW
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RESULT 4

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Canalicular multidrug resistance protein - rat
C:Species Rattus norvegicus (Norway rat)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: S71839
R;Buechler, M; Koenig, J; Brom, M; Kartenbeck, J; Spring, H; Horie, T; Keppler, D.
J, Biol. Chem. 271, 15098, 1996
A,Filtle: cDNA cloning of the hepatocyte canalicular isoform of the multidrug resistance;
A,Reference number: S71839; MUID:96279006; PMID:8662992
A;Reference number: S71839; MUID:96279006; PMID:8662992
A;Reterence number: S71839; MUID:96279006; PMID:8662992
A;Reterence number: S71839; MUID:96279006; PMID:8662992
A;Reterence number: S71839; MUID:96279006; PMID:8662992
A;Retaus: preliminary; nucleic acid sequence not shown
A;Rolecule type: mRNA
A;Residues: 1-1541 < CHES
A;Cross-references: UNIPARCI:Q63120; UNIPARC:UPI000012F578; EMBL:X96333; NID:g1292881; PII
C;Superfamily: human multidrug resistance protein cMON72; ATP-binding cassette homology
C;Keywords: ATP; glycoprotein; nucleotide binding; P-loop; transmembrane protein
F;100-124/Domain: transmembrane #status predicted <TM00>
F;100-29/Domain: transmembrane #status predicted <TM00>
F;36-39/Domain: transmembrane #status predicted <TM00>
F;336-564/Domain: transmembrane #status predicted <TM00>
F;336-564/Domain: transmembrane #status predicted <TM00>
F;367-674/Region: nucleotide-binding motif A (P-loop)
F;667-674/Chanin: transmembrane #status predicted <TM10>
F;100-132/Domain: transmembrane #status predicted <TM10>
F;100-132/Domain: transmembrane #status predicted <TM10>
F;100-132/Domain: transmembrane #status predicted <TM10>
F;67-674/Region: nucleotide-binding motif A (P-loop)
F;667-674/Region: mucleotide-binding motif A (P-loop)
F;67-674/Region: nucleotide-binding motif A (P-loop)
F;67-674/Region: nuc
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Best Local Similarity
59 SI--TKFYLAKQVFVVFLLILAAIDLSLALTEDTGQATVPPVRYTNP-ILYLCTWLLVLA 115
                                                                                                                                                                    YIOMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLATFL
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                                                                                                           LVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPDSSWP
                                                                                                                                    HVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVDSMIPEVIKMFMGSLFNVIGACIVI
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A;Molecule type: DNA
A;Residues: 1-1494 <STO>
A;Cross-references: UNIPRC
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GKTIGAIVNLMSVDIQKIQDMAPTIMLFWSAPLQIFLSIYFLWKFLGVAALAGLVVLILA
                                                                                                                                                      NQPVWIGCSIVGIMFFSSFLQSMFLHQYYHSMFRLGMHVRSVLTSAVYSKALNLSNEARK
           LAMVAMVYGEAVQCSVSNTRLKEFFAAEEMSPQT----SISHGETDSAIEVENGLFSWSS
                                                                                                                            SSTVGEIVNLMSVDAQREMDLATYINMIWSAPLQVILALYLLMLNLGESVLAGVAVMVLM
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C;Date: 10-May-2001 #sequence_revision 10-May-2001 #t
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A;Title: Genome sequence of the nematode C. elegans: a platform for investigating biology. Ryreference number: A5000; MUID:99069613; PMID:9851916
A;Reference numbers genome.wustl.edu/gsc/C_elegans/ and www sanger.ac.uk/Projects/C_elA;Note: see websites genome.wustl.edu/gsc/C_elegans/ and www sanger.ac.uk/Projects/C_elA;Note: published errata appeared in Science 283, 35, 1999; Science 283, 2103, 1999; an A;Accession: E89447
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RESULT 6
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hypothetical protein F21G4.2 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #t.
C;Accession: T21219; T24002
R;Mortimore, B.
R;Mortimore, B.
submitted to the EMBL Data Library, October 1996
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                                                       #text_change
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                                                           09-Jul-2004
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A;Reference number: Z19392
A;Accession: T21219
A;Accession: T21219
A;Accession: preliminary; translated from GB/EMBL/DDBJ
A;Accession: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-1573 <WIL>
A;Residues: 1-1573 <WIL>
A;Residues: 1-1573 <WIL>
A;Residues: 1-1573 <WIL>
A;Experimental source: clone F21G4
R;Kershaw, J.
submitted to the EMBL Data Library, March 1995
A;Reference number: Z19828
A;Accession: T24002
A;Accession: T24002
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-1573 <WIZ>
A;Residues: 1-1573 <WIZ>
A;Residues: 1-1573 <WIZ>
A;Cross-references: UNIPARC:UPI0000823F7; EMBL:Z48621; PIDN:CAA88549.1; GSPDB:CGenetics:
A;Experimental source: clone R07B1
C;Genetics:
A;Gene: CESP:F21G4.2
A;Map position: X
A;Introns: 21/3; 12/3; 197/3; 276/1; 654/1; 911/1; 1067/1; 1472/2; 1537/2
C;Superfamily: human multidrug resistance protein cMOATZ; ATP-binding cassette
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VSNRRLKEFLVSEELNVEAIDHR-ARD--NNDVICLKEACLSWESAEHQPVPTLTNISFS
                                                    VSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTW--ARSDP-PTLNGITFS
                                                                                                                 MLNTASPFLVALSTFATFIYIDPKNVLTPEIAFVSLTLFNQLRSPMSQVAELITQTVQVV
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42.4%; Pred. No. 1.3e-209;
Live 305; Mismatches 490;
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RESULT 7

742216
multidrug resistance-associated protein homolog MLJ
C; Species: Rattus norvegicus (Norway rat)
C; Date: 03-Dec-1999 #sequence_revision 03-Dec-1999
C; Accession: 742216
R; H1rohashi, T; Suzuki, H.; Ito, K.; Ogawa, K.; Kl
Mol. Pharmacol. 53, 1068-1075, 1998
A; Title: Hepatic expression of multidrug resistance
A; Reference number: Z22081; MUID:98279126; PMID:96:
A; Accession: 742216
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                                                                               AKIGLHDLRFKITIIPQDPVLFSGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDK
                                                                                                                                                        AARSGSNTTGQPIAIRLGVYAGLGFSBIILLFIGMLSLLYGGVSASRNLHAPLMRNLFRV
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TRQLTGTERVETGRVKWDTYYKYFGAMGMSIAVLFVLGMTTSTIFSMGRNLMLTDWSNDN
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      of multidrug resistance-associated protein-like MUID:98279126; PMID:9614210
                                       03-Dec-1999
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                          Kume,
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                         Shimizu,
                                     09-Jul-2004
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Conservative
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43.1%;
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A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: mRNA A;Residues: 1-1502 <HIR> A;Cross-references: UNIPROT:088269; UNIPARC:UPI000012F57A; A;Experimental source: strain Sprague-Dawley; liver C;Superfamily: human multidrug resistance protein cMOAT2; P
                                                                                                                                                          LHRNGALVGLLDGARQPAGEGEGEAHAAATSDDLGGFSGGGTPTRRPE
                                 LARDGAFAEFLRTYASTEQEQDAEENGVT----
                                                                 SAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQEL
                                                                                                              WIQEVLEACALGSDVASFPAGVHTPVGEQGMNLSGGQKQRLSLARAVYRRAAVYLMDDPL
                                                                                                                          LQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTVGEIVNLMSVDAQRFM
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Pred. No. 1.2e-2
90; Mismatches 5
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A;Molecule type: DNA
A;Residues: I-1515 < CUI>
A;Residues: I-1515 < CUI>
A;Cross-references: UNIPROT:P39109; UNIPARC:UPI000013A67B; EMBL:Z48179;
A;Cross-references: UNIPROT:P39109; UNIPARC:UPI000013A67B; EMBL:Z48179;
A;Szczypka, M.S.; Wemmie, J.A.; Moye-Rowley, W.S.; Thiele, D.J.
J. Biol. Chem. 269, 22853-22857, 1994
A;Biol. Chem. 269, 22853-22857, 1994
A;Title: A yeast metal resistance protein similar to human cystic fibros
A;Reference number: A55352, MUID:94357936; PMID:7521334
A;Accession: A55352
A;Map position: 4R
C;Function:
A;Description: required for cadmium resistance
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology
                                                                                                                                                                                                                                                                                                                                                                        cadmium resistance protein YCF1 - yeast (Saccharomyces cerevisiae)
N;Alternate names: protein YD9302.11c; protein YDR135c
C;Species: Saccharomyces cerevisiae
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09
C;Accession: S51863; A55352; S50233
R;Oliver K; Harris, D.
R;Oliver K; Harris, D.
Submitted to the EMBL Data Library, February 1995
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                                                                        A;Gene: SGD:YCF1; MIPS:YDR135c
A;Cross-references: SGD:S0002542; MIPS:YDR135c
                                                                                                             A;Cross-references: UNIPARC:UPI0000168F06; GB:L35237; NID:g556464; PIDN:AAA50353.1; PIDC;Genetics:
                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-679,'R',681-1515 <SZC>
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A; Accession: S51863
                                                                                                                                                                              A;Status: nucleic acid sequence not shown
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       LFRVKGFATVHGSVAYVSQVPWIMNGTVKENILFGHRYDAEFYEKTIKACALTIDLAILM
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C;Keywords: ATP; nucleotide binding; P-loop; transmembrane pro F;287-308/Domain: transmembrane #status predicted <TM1> F;345-36/Domain: transmembrane #status predicted <TM2> F;421-42/Domain: transmembrane #status predicted <TM2> F;421-42/Domain: transmembrane #status predicted <TM3> F;446-467/Domain: transmembrane #status predicted <TM4> F;544-55/Domain: transmembrane #status predicted <TM5> F;546-889/Domain: transmembrane #status predicted <TM6> F;646-829/Domain: ATP-binding cassette homology <ABC1> F;646-829/Domain: transmembrane #status predicted <TM7> F;995-1016/Domain: transmembrane #status predicted <TM7> F;995-1016/Domain: transmembrane #status predicted <TM9> F;1092-1113/Domain: transmembrane #status predicted <TM10> F;1179-1200/Domain: transmembrane #status predicted <TM10> F;1208-1433/Domain: transmembrane #status predicted <TM12> F;1289-1483/Domain: transmembrane #status predicted <TM12> F;1289-1433/Domain: transmembrane #status predicted <TM10> F;1289-1483/Domain: transmembrane #status predicted <TM10> F;1289-1483/D
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32; Conservative 295;
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MDKVEGHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEILP
                                                                                                              NIGDVAINIGDDATFLWORKPEYKVALKNINFQAKKGNLTCIVGKVGSGKTALLSCMLGD
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40.3%; Pred. No. 2.1e-183;
rative 295; Mismatches 495; Indels 146;
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homology 764/2;

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RESULT 9
T20434
hypothetical protein E03G2.2 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_
C;Accession: T20434
R;McMurray, A.
submitted to the EMBL Data Library, November 1995
A;Reference number: Z19275
A;Accession: T20434
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-1398 cMIL>
A;Cross-references: UNIPROT:Q19048; UNIPARC:UPI000007736;
A;Experimental source: clone E03G2
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               UNIPARC: UPI0000077364;
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-EGELEQLQKLNDLDFGNSDAISLRRASDAT
                                                                                                       #text_change
              EMBL: Z68113;
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               PIDN:CAA92148.
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A;Gene: CESP:B03G2.2
A;Introns: 73/3; 113/3; 176/1; 216/1; 258/2; 384/3; 470/3; 549/1; 644/3; 757/3;
A;Introns: 73/3; 113/3; 176/1; 216/1; 258/2; 384/3; 470/3; ATP-binding cassette |
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette |
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                                                                                                 EENGVTGVSGPGKEAKOMENGMLVTDSAGKOLOROLSSSSSYSGDISRHHNSTAELOKAE
                                                                                                                                            NKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDA
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                                          - KKPDA--LITKEBAAIGRVNPGVYLLYFKAMGIVTYVLPYAIAVVLNVSFALGRSLWLT
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                                                                                     -GEENSDILPGSIASGSRMSRLSR-LSK-----
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115 ITTLIATFLIOLERRKGVQSSGIMLTFWLVA-LVCALAILRSKIMTALKEDAQVDLFRDI 173             : : 	Query Match 26.2%; Score 2548; DB 2; Length 1478; Best Local Similarity 38.7%; Pred. No. 9.1e-164; Matches 560; Conservative 285; Mismatches 509; Indels 92; Gaps 21;	A;Gene: SPDB:SPAC3F10.11c A;Map position: 1 C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology C;Keywords: ATP; transmembrane protein	idues: 1043-1286,'L',1288-1300,'Y',1302,'H',1304-1310,'H',1312-1466,'V',1468-1478 ss-references: UNIPARC:UPI00006C641; EMBL:D89231; NID:g1749669; PIDN:BAA13892.1; erimental source: strain PR745 erics:	erence number: Z17323; MUID:98162722; PMID:9501991 sesion: T43244 tus: preliminary; translated from GB/EMBL/DDBJ scule type: mRNA	erimental source: strain 972h(-); cosmid c3F10 hioka, S.; Kato, K.; Nakai, K.; Okayama, H.; Nojima, H. es. 4, 363-369, 1997 le: Identification of open reading frames in Schizosaccharomyces pombe cDNAs	tus: translated from GB/EMBL/DDBJ ecule type: DNA idues: 1-1478 <mur> se-references: UNIPROT:010185; UNIPARC:UPI000013A189; EMBL:Z69369; PIDN:CAA93309.1</mur>	phy, L.; Harris, D.; Barrell, B.G.; Rajandream, M.A.; Walsh, S.V. tted to the EMBL Data Library, February 1996 ession: T38712		7 10 Pansporter SPAC3F10.llc (similarity) - fission veast (Schizosaccharomyces pombe)	1475 QFEDCTVLTIAHRLNTIMDYTRVIVLDKGBIQEYGAPSDLLQQR-GLFYSMAKDAGLV 1531      :     :  :  :  :  :  :  :  :  :  :	1415 LPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRT 1474 	1355 GINIAKIGLHDLREKITIIPQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSA 1414	1295 FRNYCLRYREDLDFYLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIID 1354	1235 SYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVE 1294	1176 HQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVISRHS-LSAGLVGLSV 1234	1116 AIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFI 1175     - :       : :  :   :  :    :   :      :   :	922 VLRNPLSYEDITPIGRIINRLAXDMEVVDLRLSSSERFLYMALINMTVLIVSYTTPLF 979
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1113 DMEDTFISENDIRVDTNHRIWFLYFSSNRWQAIRVEAIGALVVFSSAFFGVLSAVRGNPN	1109 DEMARTIARITIK PUSHTIF RVKKTIVASSKULKKUSVSSEVISHENETILISVSVIKAR 	1049 HVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVDSMIPBVIKMFMGSLFNVIGACIVI 1108   :: ::  :         ::      ::	990 LASNYMLSLWTDDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMAVSI-GGILASRCL 1048 :	933 ELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFMCNHVSA- ::	878 AEENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSGDISRHHNSTA	819 NKTRILVTHSMSYLÞQVDVIIVMSGGKISEMGSYQELLAR-DGAFAEFLRTYASTEQEQD ::         :   :   :               :	759 TEIGEKGVNLSGGQKORVSLARAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLK 818   -    -    - -	699 EGHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDR 	643 SITVRNATFTWARSDPPTLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKV 698 : :	583 FVSLALFNILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTN 642    -    -   -   -   - -  - - -	525 KDKVLAIRQ-BELKVLKKSAYLSAVGTFTWVCTPFLVALCTFAVYVTI-DENNILDAQTA 582	465 SVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAF  :	405 RKALVITNSARKSSTVGEIVNLMSVDAQRFMDLATYINMIMSAPLQVILALYLLWLNIGP 464   :  :::  :  :                 ::	349 LIKFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVY 404 ::	289 SKVDANEEVEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKL 	229 VRGYRQPLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKES	174 TFYVYFSLLLIQLVLSCFSDRSPLFSETIHDFNPCPESSASFLSRITFWMITGLI

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ABC transporter AtMRP2 [imported] - Arabidopsis thaliana
N;Alternate names: multidrug-resistance protein homolog T29F13.13
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 12.-Peb-199 #sequence revision 12.-Peb-1999 #text_change 09-Jul-2004
C;Accession: 701369;D84759
R;Rounsley, S. D.; Lin, X.; Ketchum, K.A.; Crosby, M.L.; Brandon, R.C.; Sykes, S.M.; Kaul submitted to the EMBL Data Library, May 1998
A;Description: Arabidopsis thaliana chromosome II BAC T29F13 genomic sequence.
A;Reference number: Z14179
A;Cross-references: UNIPROT:064590; UNIPARC:UPI000009F2D5; EMBL;AC003096; NID:g3132469;
A;Cross-references: UNIPROT:064590; UNIPARC:UPI000009F2D5; EMBL;AC003096; NID:g3132469;
A;Experimental source: cultivar Columbia
A;Residues: 1-1623 <ROUN-A;Roo; H; Moffatr, K.S.; Cronin, L.A.; Shen, M.; Vanaken, S.E.; Umayam, L.; Tallon, L.
euss, D.; Nierman, W.C.; White, O.; Eisen, M.; Vanaken, S.E.; Umayam, L.; Tallon, L.
euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J.
Nature 402, 761-768, 1999
A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.
A;Reference number: A84420; MUID:20083487; PMID:10617197
A;Accession: D84759
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-1623 <STO-
A;Cross-references: UNIPARC:UPI000009F2D5; GB:AE002093; NID:g3132479; PIDN:AAC16268.1; G
C;Genetics:
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A;Map position: 2
A;Introns: 110/3; 170/2; 183/3; 236/1; 274/2; 301/2; 309/3; 328/3; 350
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding
F;1259-1452/Domain: ATP-binding cassette homology <ABC>
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  GVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS---
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                                          HKVERFCLRSRLYNYFLALLAAYATAEPLFRL---IMGISVLDFDGPGLPPF-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGSLRMVLDPFSQYSDEEVWTSLELA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSS
                                                                                                                  FIEWYCKPVPNGVWTKQVANAFGAYTPCATDSFVLGISQLVLLVLC----LYRIWLALKD
                                                                                                                                                        FYLWACEPE-YFLYLSRHDRGYIQMTPLNKTKTALG---FLLWIVCWADLFYSFW-----
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                                                                                                                                                                                            24.5%; Score 2384.5; DB 2;
larity 35.2%; Pred. No. 1.3e-152;
Conservative 274; Mismatches 534;
                                                                            -PVFLVSPTLLGITTL----LATFLIQLERRK 130
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MKAI-GLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGT-QEHTKVRLS-VYGALG
                                                                                                                                                                                                                                                                                                                                                                                                                                              YIFDDPLSALDAHVGQQVFEKCI--KRELGQKTRVLVTNQLHFLSQVDRIVLVHEGTVKE
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                                                                                                                                                                        ISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTV 1083
                                                                                                                                                                                                                 QDALGGAWVVMMLLLCYVLTEVFRVTSSTWLSEWTD----AGTPKSHGPLFYNLIYALLS
                                                                                                                                                                                                                                                                                                                           GKQLQRQLSSSSSSSSISGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDY
                                                                                                                                                                                                                                                                                                                                                                                                       MGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKE--AKQMENGMLVTDSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            YLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LVALCTFAVYYTIDENNILDAQTAFVSLALFNILRFPLNILPMVISSIVQASVSLKRL--
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                                                            DRTVAVFVNMFMGQVSQLLSTVVLÍGIVSTLSLWAIMPLLVLFYGAYLYÝQNTAŘEVKRM
                                                                                            DSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRL 1143
                                                                                                                                    FGQVLVTLTNSYWLIMSSLYAAKKLHDNMLHSILRAPMSFFHTNPLGRIINRFAKDLGDI
                                                                                                                                                                                                                                                                                                                                                                   EGTYEELSSNGPLFQRLMENAGKVEEY--SEENGEAEADQTAEQPVANGNTNGLQMDGSD
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---YIRELRWYVRFAVIYALVGDMV
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Qy  95 ERSRGIFLAPVFLVSPTLLGITTLLATFLIQLERRKGVQS 134	Superfamily: h Query Match Best Local Sin Matches 569; Matches 47 WA	S.; Maiti, R.; Marzial A.M.; Sun, H.; Tallon idopsis.  005172; NID:g11055814;	dopsis thaliana nge 09-Jul-2004 Kaul, S.; White, O. R.; Creasy, T.H.; [	Db 1328 LFSGTVRFNLDPFGEHNDADLWSSLERAHLKDTIRRNPLGLDAEVSBAGENFSVGQRQLL 1387  Qy 1439 CLARALLKTKILVLDEATAAVDLETDDLIQSTIRROFEDCTVLTIAHRLNTIMDYTRVI 1498   :     ::           ::      ::  :	PVYAQFGEALNGLSTIRAYKAYDRWADINGRSWDNNIRF  IVLPAALFAVISRHSLSAGLVGLSVSYSLQVTTY ::
1052 1173 1112 1228 1172	995 936 1053 992	Db 732 EIGH Qy 820 KTRI	Db 558 TSLS  QY 642 NSII  QY 612 PAIS  QY 700 GHVA  Db 672 ATVI  QY 760 EIGE	Qy 464 PSVI Db 440 VAST Qy 524 FKDR Db 500 FQSK Qy 584 VSLA	Qy 224 ITGL Db 242 LNPL Qy 284 QPKE Qy 286 -PK- Qy 344 QILK Qy 341 LLLN Qy 341 KLLN Db 321 LLLN Qy 404 YRKA Qy 406 FRKS
.052 TISLMAIMPLLVVFYGAYLYYQNTSREIKRNDSTTRSPVYAQPGEALNGLSSIRAYKAYD 1111 .173 RFIHOSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVISRHSLSA 1227 .18		732 EIGERGVNISGGOKQRVSMARAVYSNSDVCILDDPLSALDAHVGQQVFEKCIKRELGO 789  820 KTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAE 879    :   :: : : :::::::::::::::::::::::		464 PSVLAGVAVMVLMVPVNAVMAKKTKTYQVAHMKSKDNRIKLMNEILINGIKVLKLYAWELA 523 :	224 ITGLIVRGYROPLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTRKOPVKVVYSSKDPA 283 242 LNPLMTLGSKRPLTEKDVWHLDTWDKTETLMRSFOKSWDKELEK

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probable ABC transporter [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: E86428
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.;
Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; De
ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter; J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.;
C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; M
Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.;
ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MUID:21016719; PMID:11130712
A;Residues: 1-1495 <STOO
A;Residues: 1-1495 <STOO
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C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette h
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hypothetical protein Y75B8A.26 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004 C;Accession: T27408 R;Barrlow, K. submitted to the EMBL Data Library, November 1998 A;Reference number: Z20361
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A;Cross-references: UNIPROT:(09XW61;
A;Experimental source: clone Y75B8A
C;Genetics:
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:Introns: 63/3; 120/3; 222/3; 271/3; 372/3; 451/1; 636/1; 687/3; 778/3;
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        ELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFMCNHVSALAS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              probable membrane protein YLL015w - yeast (Saccharomyces cerevisiae)
N;Alternate names: hypothetical protein A25; hypothetical protein L
C;Species: Saccharomyces cerevisiae
C;Date: 10-Sep-1999 #Bequence revision 10-Sep-1999 #text_change 09-J
C;Accession: S64757; S64763; PS0041; S69391; S70560
R;Mioega, T.; Zimmermann, F.K.
submitted to the Protein Sequence Database, May 1996
Gene 77, 21-30, 1989
A;Title: The C-terminal part of a gene partially homologous to CDC25
A;Reference number: PS0041; MUID:89306677; PMID:2545538
A;Accession: PS0041
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                 A;Molecule type: DNA
A;Residues: 1-1559 <MIO>
A;Cross-references: UNIPROT:P14772;
A;Experimental source: strain S288C
R;Goffeau, A.; Purnelle, B.
submitted to the Protein Sequence Da
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A;Residues: 1-1559 <GOF>
A;Cross-references: UNIPARC:UPI0000126A9C;
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A; Accession: S64757
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                                                                                                                                                  A;Experimental source: strain S288C R;Boy-Marcotte, E.; Damak, F.; Camonis,
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A; Accession: S64763
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                                                                                                                                                     Garreau,
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                                                                                                                                                     H.; Jacquet,
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A;Gene: SGD:BPT1; MIPS:YLLO15w
A;Cross-references: SGD:SO003938
A;Cross-references: SGD:SO003938
A;Map position: 12L
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homol C;Keywords: ATP; nucleotide binding; P-loop; transmembrane protein
F;28-44/Domain: transmembrane #status predicted <TM1>
F;178-194/Domain: transmembrane #status predicted <TM3>
F;178-194/Domain: transmembrane #status predicted <TM4>
F;178-194/Domain: transmembrane #status predicted <TM5>
F;334-350/Domain: transmembrane #status predicted <TM5>
F;526-542/Domain: transmembrane #status predicted <TM7>
F;550-566/Domain: transmembrane #status predicted <TM7>
F;654-847/Domain: ATP-binding cassette homology <ABC1>
F;672-679/Region: nucleotide-binding motif A (P-loop)
F;774-990/Domain: transmembrane #status predicted <TM8>
F:1717-17137/Domain: transmembrane #status predicted <TM8>
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A;Description: The sequence of 32 kb on the left arm of yeast chromosome XII reveals mily and a new ABC transporter homologous to the human multidrug resistance protein.
A;Reference number: $69380
A;Accession: $69381
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A;Molecule type: DNA
A;Residues: 1-1559 <PUR>
A;Cross-references: UNIPARC:UPI0000126A9C;
A;Cross-references. Timmermann, F.K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Miosga, T.; Zimmermann, F.K.
Yeast 12, 693-708, 1996
A;Title: Sequence analysis of the CEN12 region of Sacche conductance regulator protein CFTR.
A;Reference number: S70557; MUID:96405918; PMID:8810043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F;1017-1033/Domain: transmembrane #status predicted <TM9>
F;1099-1115/Domain: transmembrane #status predicted <TM10>
F;1118-1134/Domain: transmembrane #status predicted <TM11>
F;1212-1228/Domain: transmembrane #status predicted <TM12>
F;1212-1228/Domain: transmembrane #status predicted <TM12>
F;1319-1529/Domain: ATP-binding cassette homology <ABC2>
F;1336-1343/Region: nucleotide-binding motif A (P-loop)
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A; Residues: 1-1559 «MIW»
A; Residues: 1-1559 «MIW»
A; Cross-references: UNIPARC: UPI0000126A9C; EMBL: X91488; NID: g1495203; PIDN: CAA62776.1;
A; Note: the nucleotide sequence was submitted to the EMBL Data Library, September 1995
C; Genetics:
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A;Status: nucleic acid sequence
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A;Cross-references: UNIPARC:UPI00001746CF
A;Note: the authors translated the codon (
R;Purnelle, B.; Goffeau, A.
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--SIMRAIMKSFGRTISVAMLYETTSDLLSVVQPQF
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                       EFKNYSTKYRENLDPVLNNINVKIEPCEKVGIVGRTGAGKSTLSLALFRILEPTEGKIII
                                          EFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIII
                                                                                                                                  LNYEKIQYNVDFVFNFRSTNRWLSVRLQTIGATIVLATAILALAIMNTKRQLSSGMVGLL
                                                                                                                                                                                                                   QSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVI---SRHSLSAGLVGLS
                                                                                                                                                                                                                                                                                      VPNMFLVVIYIYYQTFYIVLSRELKRLISISYSPIMSLMSESLNGYSIIDAYDHFERFIY
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                                                                                                           VRTTVTIETNIVSVERIVEYCELPPEAQSINPEKRPDENWPSKGGI
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DT 01-ROV-1997 (Rel. 35, Last sequence update)

DT 01-NOV-1997 (Rel. 35, Last sequence update)

DT 01-NOV-1997 (Rel. 35, Last sequence update)

DT 01-NOV-1997 (Rel. 36, Last sequence update)

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        NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA] OF 1131-1531.

MEDLINE-99425270; PubMed=10493829; DOI=10.1006/geno.1999.5927;

Loftus B.J., Kim U.-J., Sneddon V.P., Kallush F., Brandon R.,

Fuhrmann J., Mason T., Crosby M.L., Barnstead M., Cronin L.,

Deslattes Mays A., Cao Y., Xu R.X., Kang H.-L., Mitchell S.,

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Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
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Q7XTB8 DROME
Q7XTB9_DROME
Q7XTTB9_DROME
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Q8CF126_BRARE
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Duncan A.M.V., Deeley R.G.;
n a multidrug-resistant human
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Result No.

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Q86487 MACFA
Q86487 MACFA
Q86487 MACFA
Q80407 HUMAN
Q9UQA0 HUMAN
Q9UQA0 HUMAN
Q8UXO5 BOVIN
Q9UQ98 HUMAN
Q8UXO5 BOVIN
Q9UQ98 HUMAN
Q8EXO5 BOVIN
Q9UQ98 HUMAN
Q8EXOF HOUSE
Q810G9 RAT
Q810G9 RAT
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Minimum Maximum

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UniProt\_05.80:\*
1: uniprot\_sprot:\*
2: uniprot\_trembl:\*

Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Total number

Sequence: Scoring table:

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Gapext 705528306

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GenCore version (c) 1993 - 2005

December 15,

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associated J. Biol. Ch
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selective loss of organic anion transport.";
J. Biol. Chem. 276:15616-15624(2001).
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"Epitope insertion favors
carboxy-terminal portion c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MUTAGENESIS OF ASP-792; ASP-793; LYS-1333 AND 1454-ASP-GLU-1455. MEDLINE=21362977; PubMed=11469806; DOI=10.1006/abbi.2001.2441; Cui L., Hou Y.-X., Riordan J.R., Chang X.-B.; "Mutations of the Walker B motif in the first nucleotide binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY, AND CARBOHYDRATE-LINKAGE SITES.
MEDLINE=97442425; PubMed=9295302; DOI=10.1074/jbc.
Hipfner D.R., Almquist K.C., Leslie E.M., Gerlach
Deeley R.G., Cole S.P.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=21238219; PubMed=11278867; DOI=10.1074/jbc.M011246200; Ito K., Olsen S.L., Qiu W., Deeley R.G., Cole S.P.C.; "Mutation of a single conserved tryptophan in multidrug resistance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein."
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J. Biol. Chem. 272:26479-26487(1997).
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genes at locus 16p13.1 and exclusion pseudoxanthoma elasticum."; Hum. Mutat. 17:74-75(2001).
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                                          Perdu J., Germain D.P.;
"Identification of novel polymorphisms
                                                                             MEDLINE=20579883; PubMed=11139250;
DOI=10.1002/1098-1004(2001)17:1<74:;AID-HUMU14>3.0.
                                                                                                               VARIANTS
                                                                                                                                                           "Identification of human multidrug resistance protein 1 (MRP1) mutations and characterization of a G671V substitution.";
                                                                                                                                                             mutations
                                                                                                                                                                                                           Conrad S.,
                                                                                                                                                                                                                        MEDLINE=21578494;
                                                                                                                                                                                                                                                                                                                                                       VARIANT VAL-671
                                                                                                                                                                                                                                                                                                                                                                                                   elasticum.";
                                                                                                                                                                                                                                                                                                                                                                                                                "Mutations in a gene
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MUTAGENESIS OF TRP-1246
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. 46:656-663(2001).
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                                                                                                             AND
                                                                                                                                                                                                    AND CHARACTERIZATION OF VARIANT VAL-671.
PubMed=11721885; DOI=10.1007/s100380170017;
ann H.-M., Ito K., Deeley R.G., Cole S.P.C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PubMed=9334225; DOI=10.1074/jbc.272.42.26479;
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-cells.
-i- SIMILARITY: Belongs to the ABC transporter family. MRP subfamily.
-!- SIMILARITY: Contains 2 ABC transmembrane type-1 domains.
-!- SIMILARITY: Contains 2 ABC transporter domains.
-!- DATABASS: NAME=Atlas Genet. Cytogenet. Oncol. Haematol.;
--- WWW-"http://www.infobiogen.fr/services/chromcancer/Genes/MRPID106.html"
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VARIANTS SER-43; ILE-73; GLN-723 AND (MEDLINE=21163848; PubMed=11266082; DOI=10.1097/00008571-200103000-08008; Ito S., Ieiri I., Tanabe M., Suzuki A
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Pharmacogenetics 11:175-184(2001).
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SUBCELLULAR LOCATION: I

- ALTERNATIVE PRODUCTS:

Event=Alternative splic

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 SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG
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resistance protein gene (MRP) and alternative spl.
Genomics 45:368-378(1997).

Genomics 45:368-378(1997).

-i SIMILARITY: Belongs to the ABC transporter fall spl.
RMBL; AF022853; AAB83979.1; -; Genomic DNA.
RMBL; AF022827; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022828; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022829; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022831; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022833; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022833; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022837; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022837; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022839; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022841; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022841; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022849; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022849; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022849; AAB83979.1; JOINED; Genomic DNA.
RMBL; AF022849; AAB83979.1; JOINED; Genomic DNA.
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NUCLEOTIDE SEQUENCE.
MEDLINE-98008927; PubMed-9344662; DOI=10.1006/geno.1997.4950;
Grant C.E., Kurz E.U., Cole S.P.C., Deeley R.G.;
"Analysis of the intron-exon organization of the human multid"
"Analysis of the intron-exon organization of the human multid"
"Analysis of the intron-exon organization of the human multid"
"Analysis of the intron-exon organization of the human multid"
                                                                                                                                                                                                                                                                                                                                                                                                                                                        99-HUMAN
99-HUMAN PRELIMINARY; PRT; 1515 AA.
Q9UQ99;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
O1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
O1-MAY-2004 (TrEMBLrel. 26, Last annotation update)
Multidrug resistance protein (Fragment).
                                                                                                                                                                                                                                                                                                                                           Homo.
NCBI_TaxID=9606;
[1]
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Eukaryota; Metazoa;
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R Pfam; PF00664; ABC tran; 2.

R Pfam; PF00005; ABC_tran; 2.

R PF000m; PD000006; ABC_tran; 2.

R PF000m; PD000006; ABC Transporter; 2.

R PROSITE; SM00382; AAA; 2.

R PROSITE; PS0021; ABC_TMIF; 2.

R PROSITE; PS0021; ABC_TRANSPORTER 1; 2.

R PROSITE; PS00893; ABC_TRANSPORTER 2; 2.

R PROSITE; PS00893; ABC_TRANSPORTER 2; 2.

R PROSITE; PS00803; ABC_TRANSPORTER 2; 2.

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                                                                                                                                                                  Query Match
Best Local Similarity
Matches 1493; Conser
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submitted (AUG-2002) to the EMBL/GenBank/DDBJ
-|- SIMILARITY: Belongs to the ABC transporter
EMBL; AY146673; AANN5349.1; -; mRNA.
HSSP; P089716; 1MTO.
GO; GO:0016027; C:integral to membrane; IEA.
GO; GO:0016087; F:ATP binding; IEA.
GO; GO:0005524; F:ATP binding; IEA.
GO; GO:00016897; F:ATPase activity; coupled to
GO; GO:00016897; F:ATPase activity.
GO; GO:000166; F:nucleotide binding; IEA.
GO; GO:000166; F:nucleotide binding; IEA.
GO; GO:000316; F:ATPase activity.
GO; GO:000316; F:ATPase activity.
GO; GO:000316; F:nucleotide binding; IEA.
InterPro; IPR001527; ABC membrane_1.
InterPro; IPR001527; ABC TemBrane_1.
InterPro; IPR003439; ABC TemBrane_1.
InterPro; IPR005292; MRP assoc.
InterPro; IPR005292; MRP assoc.
InterPro; IPR005292; MRP assoc.
InterPro; IPR005292; MRP assoc.
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01-JUN-2003 (TrEMBLrel. 24, La
01-MAR-2004 (TrEMBLrel. 26, La
Multidrug resistance protein 1
Name=MRP1;
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IR9 MACFA
Q864R9 MACFA
Q864R9;
Q8-7UN-2003 (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUCLEOTIDE SEQUENCE.
MEDLINE=22544876; PubMed=12657726;
MEDLINE=22544876; PubMed=12657726;
MEDLINE=22544876; PubMed=12657726;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Buarchontoglires; Primates; Catarrhini;
Cercopithecidae; Cercopithecinae; Macaca.
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                 DRGYIQMTPLNKTKTALGELLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA 120
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Pred. No. 0;
20; Mismatches
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                                                    KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
                                                                                                        ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSEMSFFERTPSGNLVNRFSKEL 1080
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                                  KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
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RESULT 4

Q864SO_MACFA
Q864SO_MACFA PRELIMINARY; PRT; 1531 AA.
AC Q864SO;
DT 01-UN-2003 (TrEMBLrel. 24, Last sequence updat
DT 01-UN-2003 (TrEMBLrel. 26, Last annotation upd
DT 01-UN-2003 (TrEMBLrel. 26, Last annotation upd
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation upd
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A Perry W.L. III, Godinot N.;

A Perry W.L. III, Godinot N.;

C -!- SIMILARITY: Belongs to the ABC transporter family.

REMBL, AY146672; AAN65348.1; -; mRNA.

RHSSP; P08716; 1MT0.

RGO; GO:0016021; C:integral to membrane; IEA.

RGO; GO:0016021; C:integral to membrane; IEA.

RGO; GO:0016021; F:ATP binding; IEA.

RGO; GO:0016887; F:ATPase activity; coupled to transmembrane

RGO; GO:0016687; F:ATPase activity, coupled to transmembrane

RGO; GO:000166; F:nucleotide binding; IEA.

RGO; GO:000166; F:nucleotide binding; IEA.

RGO; GO:000166; F:nucleotide binding; IEA.

RGO; GO:0000166; F:ROPO3593; AAA, ATPase.

InterPro; IPR001527; ABC_membrane; 1.

RINTERPO; IPR00140; ABC_TMTPase.

RINTERPO; IPR00140; ABC_TMTPase.

RINTERPO; IPR00140; ABC_TMTPase.

RINTERPO; IRR00140; ABC_TMTPase.

RINTERPO; IRR00140; ABC_TMTPase.

RFAGN; PP00064; ABC_Membrane; 2.

RR Pfam; PP00064; ABC_Membrane; 2.

RR ProDom; PD00006; ABC_transporter; 2.

RR PART; SM00382; AAA; 2.

RR PROSITE; PS50929; ABC_TMTP; 2.
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Primates; Catarrhini;
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PROSITE; PS50893; ABC_TRANSPORTER_2; 2.
PROSITE; PS00107; PROTEIN KINASE_ATP; UNKNOWN_1.
ATP-binding; Nucleotide-binding; Repeat.
SEQUENCE 1531 AA; 171701 MW; 168712B8CC2DZB89 CRC64;
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A Grant C.E., Kurz E.U., Cole S.P.C., Deeley R.G.;

A Grant C.E., Kurz E.U., Cole S.P.C., Deeley R.G.;

Y "Analysis of the intron-exon organization of the human multidrug-
erresistance protein gene (MRP) and alternative splicing of its mRN

C enomics 45:368-378(1997).

C -!- SIMILARITY: Belongs to the ABC transporter family.

MEMBL; AF02285; AAB83980.1; JOINED; Genomic_DNA.

DR EMBL; AF022826; AAB83980.1; JOINED; Genomic_DNA.

DR EMBL; AF022826; AAB83980.1; JOINED; Genomic_DNA.

DR EMBL; AF022830; AAB83980.1; JOINED; Genomic_DNA.

DR EMBL; AF022831; AAB83980.1; JOINED; Genomic_DNA.

DR EMBL; AF022832; AAB83980.1; JOINED; Genomic_DNA.

DR EMBL; AF022832; AAB83980.1; JOINED; Genomic_DNA.

DR EMBL; AF022832; AAB83980.1; JOINED; Genomic_DNA.

DR EMBL; AF022834; AAB83980.1; JOINED; Genomic_DNA.

DR EMBL; AF022834; AAB83980.1; JOINED; Genomic_DNA.

DR EMBL; AF022834; AAB83980.1; JOINED; Genomic_DNA.

DR EMBL; AF022836; AAB83980.1; JOINED; Genomic_DNA.

DR EMBL; AF022834; AAB83980.1; JOINED; Genomic_DNA.

DR EMBL; AF022836; AAB83980.1; JOINED; Genomic_DNA.
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01-MAY-2000 (TrEMBLrel. 13, I
01-MAR-2004 (TrEMBLrel. 26, I
Multidrug resistance protein
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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Euarchontoglires; Primates; Catarrhini; Hominidae;
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SMART; SM0382; AAA; 2.
TIGREAMS; TIGR00957; MRP assoc pro; 1.
PROSITE; PS50929; ABC TWAIF; 2.
PROSITE; PS00211; ABC TRANSPORTER 1; UNIPROSITE; PS00107; PROTEIN KINASE ATP; URAPP-binding; Nucleotide-binding.

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SEQUENCE 1459 AA; 163831 MW; 6A016A5
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 EEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEA
                        TLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGSLRWNLDPFSQYSD
                                                                                                                                                                                                    SSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKAIGLFISF
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EMBL; AF022824; AAB83981.1; JOINED; Genomic_D; EMBL; AF022827; AAB83981.1; JOINED; Genomic_D; EMBL; AF022827; AAB83981.1; JOINED; Genomic_D; EMBL; AF022827; AAB83981.1; JOINED; Genomic_D; EMBL; AF022827; AAB83981.1; JOINED; Genomic_D; EMBL; AF022827; AAB83981.1; JOINED; Genomic_D; EMBL; AF022827; AAB83981.1; JOINED; Genomic_D; EMBL; AF022837; AAB83981.1; JOINED; Genomic_D; EMBL; AF022837; AAB83981.1; JOINED; Genomic_D; EMBL; AF022847; AAB83981.1; JOINED; Genomic_D; EMBL; AF022847; AAB83981.1; JOINED; Genomic_D; EMBL; AF022844; AAB83981.1; JOINED; Genomic_D; EMBL; AF022844; AAB83981.1; JOINED; Genomic_D; EMBL; AF022844; AAB83981.1; JOINED; Genomic_D; EMBL; AF022844; AAB83981.1; JOINED; Genomic_D; EMBL; AF022847; AAB83981.1; JOINED; Genomic_D; EMBL; AF022840; AAB83981.1; JOINED; Genomic_D; EMBL; AF022852; AAB83981.1; JOINED; Genomic_D; EMBL; AF022852; AAB83981.1; JOINED; Genomic_D; EMBL; AF022852; AAB83981.1; JOINED; Genomic_D; EMBL; AF022852; AAB83981.1; JOINED; Genomic_D; EMBL; AF022852; AAB83981.1; JOINED; Genomic_D; EMBL; AF022834; AAB83981.1; JOINED; Genomic_D; EMBL; AF022834; AAB83981.1; JOINED; Genomic_D; EMBL; AF022834; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.1; JOINED; Genomic_D; EMBL; AF022832; AAB83981.
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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Best Local Sim:
Matches 1456;
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ProDom; P000006; ABC transporter; 2.

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PROSITE; PS50929; ABC_TRANSPORTER 1; 2.

PROSITE; PS00211; ABC_TRANSPORTER 1; 2.

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ATF-binding; Nucleotide-binding.
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RESULT 7

QGURO5_CANFA ID QGURO5_CANFA ID QGURO5_
AC QGURO5_JUL-2004 (7)
DT 05-JUL-2004 (7)
DT 05-JUL-2004 (7)
DE Multidrug resistance of Canis familiar
OS Canis familiar
OS Canis familiar
OC Eukaryota; Meto
OC Mammalia; Euth
OC Canis.
OX NCBI_TaxID=961
RN [1]
OX NCBI_TaxID=961
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OX MCBI_TaxID=961
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NCBI_TaxID=9615;
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NUCLECTIDE SEQUENCE.
MEDLINE=22404678; PubMed=12516967;
MEDLINE=22404678; Cao J., Dantzig A.H., Mc
"Identification and characterization of the
resistance-associated protein.";
Mol. Cancer Ther. 1:1335-1342(2002).
[2]
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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004 (TrEMBLrel. 27, Last sequence update)
004 (TrEMBLrel. 27, Last annotation update)
104 (TrEMBLrel. 27, Last annotation update)
105 resistance-associated protein 1.
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ɔa; Chordata; Craniata; Vertebrata; Eutele
ia; Laurasiatheria; Carnivora; Fissipedia;
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Euteleostomi; ipedia; Canidae;

C.A.;

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RA Ma L., Pratt S.E., Cao J., Dantzig A.H., Moore R.E., Slapak C.A.;

RL Submitted (AUG-2003) to the ABC transporter family.

CC -!- SIMILARITY: Belongs to the ABC transporter family.

RESEEMBL; AY363728; AAQ23148.1; -; mRNA.

RESEEMBL; AY363728; AAQ23148.1; -; mRNA.

RESEEMBL; ENSCARGO000018208; Canis familiaris.

RGO; GO:0016021; C:integral to membrane; IEA.

RGO; GO:0016887; F:ATPB binding; IEA.

RGO; GO:0042626; F:ATPB as activity; IEA.

RGO; GO:0042626; F:ATPB as activity; IEA.

RGO; GO:0042626; F:ATPB as activity; Coupled to transmembrane m. . . .

RGO; GO:000166; F:nucleotide binding; IEA.

RGO; GO:0006810; P:transport; IEA.

RGO; GO:0006810; P:transport; IEA.

RR GO; GO:0006810; P:transport; IEA.

RR GO; GO:0006810; P:transport; IEA.

RR GO; GO:0003233; AAA ATPB as.

RR InterPro; IPR001140; ABC_TM_transpt.

RINterPro; IPR001140; ABC_TM_transpt.

RINterPro; IPR003439; ABC_transp_like.

InterPro; IPR003439; ABC_transp_like.

RINterPro; IPR005292; MRP assoc.

DR InterPro; IPR000719; Prot_kinase.

Pfam; PF00064; ABC_transporter; 2.

RR PAGNITE; PS00036; ABC_transporter; 2.

RR PAGNITE; PS000382; AAA; 2.

BR PROSITE; PS00031; ABC_TRANSPORTER 1; 2.

RR PROSITE; PS00011; ABC_TRANSPORTER 2; 2.

RR PROSITE; PS000107; PROTEIN KINASE ATP; UNKNOWN 1.

RRPOSITE; PS00011; ABC_TRANSPORTER 2; 2.

RR PROSITE; PS000107; PROTEIN KINASE ATP; UNKNOWN 1.

RRPOSITE; PS00011; ABC_TRANSPORTER 2; 2.

RR PROSITE; PS000107; PROTEIN KINASE ATP; UNKNOWN 1.

RRPOSITE; PS00011; ABC_TRANSPORTER 3; 2.

RR PROSITE; PS000107; PROTEIN KINASE ATP; UNKNOWN 1.
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                                                                                                            LMSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL
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                                   GEIVNIMSVDAQRFMDLATYINMIWSAPLQVILALYLIWLNIGPSVLAGVAVMVIMVPVN
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                                                                                                                                                 74.7%; Score 7272; DB ilarity 91.6%; Pred. No. 0; Conservative 70; Mismatches
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RESULT 8
Q59GI9 HUMAN
ID Q59GI9;
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DT 10-MAY-2005 (7)
DT 10-MAY-2005 (7)
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Query Match
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EMBL; AB209120; BAD92357.1; -; mRNA.
Ensembl; ENSGO000010322; Homo sapiens.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0016807; F:ATPase activity; IEA.
GO; GO:0016807; F:ATPase activity; coupled to trar
GO; GO:0006810; P:transport; IEA.
GO; GO:0006810; P:transport; IEA.
GO; GO:0006810; P:transport; IEA.
GO; GO:000011527; ABC_membrane_1.
InterPro; IPR003593; AAA ATPase.
InterPro; IPR003499; ABC_TENBP_like.
InterPro; IPR003499; ABC_TENBP_like.
InterPro; IPR003499; ABC_TENBP_like.
InterPro; IPR003499; ABC_TENBP_like.
InterPro; IPR0003499; ABC_TENBP_like.
InterPro; IPR0003499; ABC_TENBP_like.
InterPro; IPR0007999; MRP_assoc.
InterPro; IPR0007999; MRP_assoc.
InterPro; IPR0007999; MRP_assoc.
INTERPAMS; TIGR00957; MRP_assoc.
Pfam; PF000664; ABC_TENBP_Like.
INTERPAMS; TIGR00957; MRP_assoc_pro; 1.
PROSITE; PS00939; ABC_TENBP_CTER_1; 2.
PROSITE; PS00939; ABC_TENBP_CTER_1; 2.
PROSITE; PS00939; ABC_TENBP_CTER_2; 2.
PROSITE; PS00939; ABC_TENBP_CTER_2; 2.
PROSITE; PS00939; ABC_TENBP_CTER_1; 2.
PROSITE; PS00939; ABC_TENBP_CTER_2; 2.
PROSITE; PS00939; ABC_TENBP_CTER_2; 2.
PROSITE; PS0093; ABC_TENBP_CTER_2; 2.
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Ohara O., Nagase T.,
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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T., Kikuno F.R.;
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99.2%;
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EMBL; ABOR2124; BAC15550.1; -; mRNA.

R GO; GO:0016021; C:integral to membrane; IEA.

GO; GO:0016021; C:integral to membrane; IEA.

GO; GO:0016887; F:ATPase activity; IEA.

GO; GO:00042626; F:ATPase activity; Coupled to transme

GO; GO:00042626; F:ATPase activity; Coupled to transme

GO; GO:0006810; P:transport; IEA.

R GO; GO:0006810; P:transport; IEA.

R InterPro; IPRO03593; AAA, ATPase.

InterPro; IPRO01527; ABC_membrane_1.

InterPro; IPRO01527; ABC_membrane_1.

InterPro; IPRO0140; ABC_TM_transport.

R InterPro; IPRO0140; ABC_TM_transport.

R InterPro; IPRO03493; ABC_transporter; 2.

R Pfam; PF000664; ABC_membrane; 2.

Pfam; PF000065; ABC_transporter; 2.

R Pfam; PF000006; ABC_transporter; 2.

R Pfam; PF000006; ABC_transporter; 2.

R Pfam; PF000006; ABC_TTRANSPORTER_1; 2.

R PROSITE; PS50929; ABC_TTRANSPORTER_1; 2.

R PROSITE; PS50933; ABC_TTRANSPORTER_2; 2.

M ATP-binding; Nucleotide-binding; Repeat.
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Multidrug re
Name=MRP1;
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Bukaryota; Metazoa; Coordata; Craniata; Vertebrata; I

Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla;

Pecora; Bovidae; Bovinae; Bos.

NCBI TaxID=9913;

[1]

NUCLEOTIDE SEQUENCE.

MEDLINE=22062955; PubMed=12067707; DOI=10.1016/S0014-
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ATP-binding; Nucleotide-binding.
NON TER 1 1
SEQÜENCE 1400 AA; 157211 MW; C7C41
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MRDI MOUSE STANDARD; PRT; 1528 AA.
035379;
25-0CT-2004 (Rel. 45, Created)
25-0CT-2004 (Rel. 45, Last sequence update)
13-SEP-2005 (Rel. 48, Last annotation update)
Multidrug resistance-associated protein 1 (ATP-binding
STRAIN=C57BL/6J; TISSUE=Testis;
MEDLINE=22354683; PubMed=12466851; DOI=10.1038/nature01266;
Okazaki Y., Furuno M., Kasukawa T., Adachi J., Bono H., Kondo S.,
Okaido I., Osato N., Saito R., Suzuki H., Yamanaka I., Kiyosawa H.
Yagi K., Tomaru Y., Hasegawa Y., Nogami A., Schonbach C., Gojobori
Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bukaryota; Metazoa; Chordata; Craniat:
Mammalia; Butheria; Euarchontoglires;
Muroidea; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Name=Abcc1; Synonyms=Abccla, Abcclb, Mdrap, Mrp;
                                                                                                                                                                                                                                           "Structure and expression of the multidrug resistance protein, an Mol. Pharmacol. 49:962-971(1996)
                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=96251691;
                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE=Muscle;
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Nature 420:563-573(2002).
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"Analysis of the mouse transcriptome based 60,770 full-length cDNAs.";
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-!- SIMILARITY: Contains 2 ABC transporter domains.
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EMBL; HSSP; Ensembl; ENSMUSG00000023088; Mus musculus P08716; 1MT0

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GO; GO:0005887; C:integral to plasma me
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InterPro; IPR001140; ABC\_TM\_transpt.
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Pfam; PF00664; ABC\_membrane; 2.
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PROSITE; PS50893; ABC\_TRANSPORTER\_2; N N

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RHSSP; p08716; lWT0.

R HSSP; p08716; lWT0.

Ensembl; ENSRNOG00000032748; Rattus norvegicus.

RGD; 3112; Abccl.

RGD; G0:0016021; C:integral to membrane; IEA.

RGO; G0:0016021; C:integral to membrane; IEA.

RGO; G0:001687; F:ATPase activity; IEA.

RGO; G0:0042626; F:ATPase activity; coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled transection of the coupled transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to transection of the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled to the coupled 
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01-MAR-2004
ATP-binding
Name=Abcc1;
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HSSP; P08716; 1MT0.
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NCBI_TaxID=10116;
[1]
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurogna
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DWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSST
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Pred. No. 0;
99; Mismatches
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E_3; UNKNOWN_1.
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             CLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVI
                                                           LFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLV
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R RGD; 3112; Abccl.

R RGD; GO:0016021; C:integral to membrane; IEA.

GO; GO:0005524; F:ATP binding; IEA.

GO; GO:0005524; F:ATP binding; IEA.

R GO; GO:0005526; F:ATPase activity; IEA.

GO; GO:0004686; F:ncleotide binding; IEA.

R GO; GO:0000166; F:ncleotide binding; IEA.

R GO; GO:0000166; F:ncleotide binding; IEA.

R GO; GO:000110; P:transport; IEA.

R InterPro; IPR001527; ABC membrane 1.

InterPro; IPR001140; ABC TW_transpt.

R InterPro; IPR00139; ABC transp_like.

R InterPro; IPR00139; ABC transp_like.

R InterPro; IPR00329; MRP_assoc.

R InterPro; IPR00529; MRP_assoc.

R Pfam; PF00064; ABC membrane; 2.

R Pfam; PF00066; ABC transporter; 2.

R Pfam; PF00005; ABC transporter; 2.

R PROSITE; PS00382; AAA; Z.

R PROSITE; PS00231; ABC TRANSPORTER 1; 2.

R PROSITE; PS00231; ABC TRANSPORTER 2; 2.

R PROSITE; PS0033; ALG TRANSPORTER 3; UNKNOWN 1.

M ATP-binding; Mucleotide-binding; Repeat.
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Q8CG09;
01-MAR-2003
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-!- SIMILARITY: Belongs to the ABC transporter family.
EMBL; AY170916; AAN86532.1; -; mRNA.
HSSP, P08716; LMTO.
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Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Multidrug resistance-associated protein 1.
Name=Abcc1; Synonyms=Mrp1;
Rattus norvegicus (Rat).
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                                      DRGYIQMTHLNKAKTALGFFLWIICWADLFYSFWERSQGMLLAPVLLVSPTLLGITMLLA
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Pred. No. 0;
00; Mismatches
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C18F3554DD85732A CRC64;
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                                                                                                                                                                             STRAIN-Sprague-Dawley; TISSUE-Spleen;

A Takayanagi S., Ishikawa T.;

Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases.

-:- SIMILARITY: Belongs to the ABC transporter family.

REMBL; AY174892; AAO44983.1; -; mRNA.

HSSP; P08716; 1MT0.

REMBL; AY174892; AAO44983.1; -; mRNA.

HSSP; P08716; 1MT0.

REMBL; AY174892; AAO44983.1; -; mRNA.

HSSP; P08716; 1MT0.

REMBL; AY174892; AAO44983.1; -; mRNA.

REGD; 3112; Abccl.

GO; GO:0016021; C:integral to membrane; IEA.

GO; GO:0005224; F:ATP binding; IEA.

GO; GO:0006266; F:ATPase activity; Coupled to transmembrane

GO; GO:00042626; F:ATPase activity, coupled to transmembrane

GO; GO:0006161; F:TATPase activity; Coupled to transmembrane

GO; GO:000616; F:ATPase activity; EEA.

REGO; GO:000616; F:ATPase activity; Coupled to transmembrane

GO; GO:000616; F:ATPase activity; Coupled to transmembrane

GO; GO:000616; F:ATPase activity; Coupled to transmembrane

GO; GO:000616; F:ATPase activity; Coupled to transmembrane

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GO; GO:000616; F:ATPase activity; Coupled to transmembrane

InterPro; IPR001353; AAA; 2.

REMBL; F:ATPase activity; IEA.

REMBL; F:ATPase activity; IEA.

REMBL; F:ATPase activity; IEA.

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REMBL; F:ATPase
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Matches 1333;
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1059 RAT
QB10G9 RAT
QB10G9;
01-JUN-2003
01-JUN-2003
01-MAR-2004
ATP-binding
Name=Abcc1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
Muridae; Murinae; Rattus.
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                                                        MALRGFCSADGSDFLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
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     DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA
                                     MALRSFCSSDGSDPLWDWNVTWHTSNPDFTKCFQNTVLTWVPCFYLWSCFPLYFLYLSRH
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 QLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRW
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                                    SLARAVYCNADTYLFDDPLSAVDAHVGKHIFEKVIGPKGILKNKTRVLVTHAVNYLPQMD
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|VPINAVMAMKTKTYQVAQMKSKDNRIKLMNEILNGIKVLKLYAWELAFREKVLEIRQKEL
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YTRVIVLDKGEIQEYGAPSDLLQORGLFYSMAKDAGL 1530	ORQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMD 1493	PQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVG 1433	NVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITII 1373	METNIVAVERLKEYSETEKEAPWOIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHI 1313	VANRWLAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSE 1253	VASSRQLKRLESVSRSÞVYSHFNETLLGVSVTRAFEBQERFTHQSDLKVDENQKAYYÞSI 1193	NRFSKELDTVDSMIPEVIKMFWGSLFNVIGACIVILLATPIAAIIIDPLGLIYFFVQRFY 1133	VRLSVYGALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSDMSFFERTPSGNLV 1073	:  :   :   :        :            ::
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  Score
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Match
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1: /cgn2_6/ptodata/1/iaa/5_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/6_COMB.pep:*

3: /cgn2_6/ptodata/1/iaa/H_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

5: /cgn2_6/ptodata/1/iaa/RE_COMB.pep:*

6: /cgn2_6/ptodata/1/iaa/RE_COMB.pep:*
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US-09-657-279-537	US-09-651-236-537	US-09-759-143-537	US-09-679-426-537	US-09-685-166A-537	US-09-636-215-537	US-09-439-313-537	US-09-208-716-3	US-08-726-320-3	US-10-012-896-1009	US-10-012-896-538	US-09-657-279-538	US-09-651-236-538	US-09-759-143-538	US-09-679-426-538	US-09-685-166A-538	US-09-636-215-538	US-09-439-313-538
Sequence 537, App	Sequence 537, App	Sequence 537, App	Sequence 537, App	Sequence 537, App	•	Sequence 537, App	Sequence 3, Appli	Sequence 3, Appli	Sequence 1009, Ap	Sequence 538, App	Sequence 538, App	Sequence 538, App	Sequence 538, App	Sequence 538, App	Sequence 538, App	Sequence 538, App	Sequence 538, App

## ALIGNMENTS

CLASSIPICATION: 435  PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/407,207 FILING DATE: 20-MAR-1995 CLASSIPICATION: 435 ATTORNEY/AGENT INFORMATION: NAME: Steeg, Carol Miernicki REGISTRATION NUMBER: 39,539 REFERENCE/DOCKET NUMBER: 01546 TELECOMMUNICATION INFORMATION: TELEPHONE: (613) 545-2342 TELEPAX: (613) 545-2342 INFORMATION FOR SEQ ID NO: 4:	FILING DATE: 05-JUN-1995 CLASSIFICATION: 435 PRIOR APPLICATION DATA: APPLICATION NUMBER: 07/966,923 FILING DATE: 27-OCT-1992 CLASSIFICATION DATA: APPLICATION UMBER: 08/029,340 PILOR APPLICATION NUMBER: 08/029,340 PILING DATE: 8-MAR-1993 CLASSIFICATION: 435 PRIOR APPLICATION: 435 PRIOR APPLICATION DATA: APPLICATION DATA: APPLICATION UMBER: 08/141,893 ETITUR DATE: 8-MAR-1993 CLASSIFICATION NUMBER: 08/141,893	FORM:  oppy disk  compatible  PC-DOS/MS-DC  text  N DATA:  US/08/463,	Sequence 4, Application US/08463092B Sequence 4, Application US/08463092B Patent No. 5766880 GENERAL INFORMATION: APPLICANT: Cole, Susan P.C. APPLICANT: Deeley, Roger G. TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULES ENCODING TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS NUMBER OF SEQUENCES: 9 CORRESPONDENCE ADDRESSE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS STREET: Queen's University at Kingston
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LENGTH: 1531 amino acidi
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
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                                       MSGGKI SEMGSY QELLARDGAFAEFLRTY ASTEQEQDAEENGVTGVSGPGKEAKQMENGM
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; Patent No. 5882875
; GENERAL INFORMATION:
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,10
FILING DATE:
CLASSIPICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
APPLICATION NUMBER: 08/029,340
                                                                                                   STREET: 60 State Street, suite 51
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
                                                                                                                                                                                                                          APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING
TITLE OF INVENTION: MULTIDRUG RESISTANT TUMC
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
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APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DeConti, Giulio A. Jr.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: PQI-002CP4
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LERGTH: 1531 amino acids
TUDESTHE SECONDERISTICS:
LERGTH: 1531 amino acids
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Best Local Similarity
Matches 1531; Conserv
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SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
                                    LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
                                                                     MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT
                                                                                MVISSIVQASVSLKRLRIFLSHEELEPDSIERREVKDGGGTNSITVRNATETWARSDPFT
                                                                                                                                                             AVMAMKTKTYQVAHMKSKDNR I KLMNEI LNGI KVLKL YAWELAFKDKVLAI RQEELKVLK
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                       LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVÄIKGSVAYVPQQAWIQND
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DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
                                                                               ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL
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US-08-460-907B-4
; Sequence 4, Application US/08460907B
; Sequence 4, Application US/08460907B
; Patent No. 5891724
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; Patent No. 5891724
; Patent No. 5891724
; Patent No. 5891724
; APPLICANT: Deeley, Roger G.
APPLICANT: Cole, Susan P.C.
; APPLICANT: Ocle, Susan P.C.
; TITLE OF INVENTION: METHODS FOR CONFERRING MULTIDRUG
; TITLE OF INVENTION: RESISTANCE ON A CELL
; NUMBER OF SEQUENCES: 9
; CORRESPONDENCE ADDRESS: 9
; CORRESPONDENCE ADDRESS: ADDRESSE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS
; STREET: Queen's University at Kingston
; CITY: Kingston
; STATE: Ontario
; COUNTRY: CANADA
; ZIP: K7L 3N6

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NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539

REFERENCE/DOCKET NUMBER: Q1551
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-853
TELEFAX: (613) 545-853
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 79.4%; Score 7860; I Best Local Similarity 100.0%; Pred. No. 0; Matches 1531; Conservative 0; Mismatches
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FILING DATE: 8-MAR-1993
CLASSIFICATION: 424
PRIOR APPLICATION DATA: 08/141,893
FILING DATE: 26-0CT-1993
CLASSIFICATION DATA: 424
PRIOR APPLICATION DATA: 08/407 207
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PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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FILING DATE: 20-MAR-1995
CLASSIFICATION: 424
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                                                                                                                                           LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL
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                                                                                                                                                                                                                                                                                      DRGYIOMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA
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                                     WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
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                                                                                        IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
  GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVN
                                                                             IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
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US-08-463-179A-4
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APPLICATION NUMBER: 08/141,893
APPLICATION NUMBER: 08/407,207
FILING DATE: 26-007-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DeConti, Giulio A. Jr.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: PQI-00
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 127-7400
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Best Local S
Matches 1531
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Patent No. 6001563
GENERAL INFORMATION:
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APPLICATION NUMBER: 07/90
FILING DATE: 27-0CT-1992
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APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
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TYPE: a
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CLASSIFICATION: 536
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                                                                                                                            VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260
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                                                                   VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1320
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1 MALRGECSADGSDPLWDWNVTWNTSNPDETKCFQNTVLVWVPCFYLWACFPPYFLYLSRH 60	Query Match Best Local Similarity 100.0%; Pred. No. 0; Matches 1531; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	- K : 3	28.2°	REGISTRATION NUMBER: 39,539 REFERENCE/DOCKET NUMBER: Q1547 TELECOMMUNICATION INFORMATION: TELEPHONE: (613) 545-2342	APPLICATION NUMBER: 08/407,207  FILING DATE: 20-MAR-1995 ATTORNEY/AGENT INFORMATION: NAME: Steed. Carol Miernicki		PILING DATE: 05-JUN-95  PRIOR APPLICATION UNATA: APPLICATION NUMBER: 07/966,923  ETIING DATE: 07/966,923	OPERATION CYSTEM: PC-DOS/MS-DOS SOFTWARE: ASCII text CURRENT APPLICATION DATA: APPLICATION UNMEER: UIS/08/461 3848	ZIP: K71 3N6 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: TWO TYPE TO THE TOTAL TH	STREET: Queen's University at Kingston  CITY: Kingston STATE: Ontario COUNTRY: CANADA	~	MATION:	RESULT 5 US-08-461-384B-4 · Semence 4 Application US/08461384B	1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531 	1441 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500 	1381 SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440 	1321 EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF 1380
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APPLICANT: Kruh, Gary D.

APPLICANT: Kruh, Gary D.

APPLICANT: Lee, Kun

APPLICANT: Belinsky, Martin G.

APPLICANT: Bain, Lisa J.

TITLE OF INVENTION: MRP-Related ABC Transporter Encorrors

TITLE OF INVENTION: Nucleic Acids and Methods of Un

FILE REFERENCE: FCCC 98-02

CURRENT APPLICATION NUMBER: US/09/647,140B

CURRENT FILING DATE: 2001-05-21

PRIOR APPLICATION NUMBER: 60/099,759

PRIOR FILING DATE: 1999-03-26

PRIOR FILING DATE: 1998-03-27

PRIOR APPLICATION NUMBER: 60/095,153

PRIOR FILING DATE: 1998-08-03

NUMBER OF SEQ ID NOS: 33

SOFTMARE: FASTSEQ for Windows Version 3.0

SEQ ID NO 19

LENGTH: 1531

TYPE: PRT

ORGANISM: Homo Sapiens
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Best Local
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DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWBRSRGIFLAPVFLVSPTLLGITTLLA 	1 MALRGECSADGSDPLWDWNVTWNTSNPDETKCFONTVLVWVPCFYLWACFPFYFLYLSRH 60	Query Match 79.3%; Score 7849; DB 1; Length 1531; Best Local Similarity 99.9%; Pred. No. 0; Matches 1529; Conservative 0; Mismatches 2; Indels 0; Gaps 0;	Y:	5 R R 6	TRATION NUMBER: 31,5 ENCE/DOCKET NUMBER: MUNICATION INFORMATIO HONE: (617) 227-7400	APPLICATION NUMBER: 07/966,923; 08/029,340 FILING DATE: 27-OCT-1992; 8-MAR-1993 ATTORNEY/AGENT INFORMATION: NAME: DECORT Givila ATT	APPLICATION NUMBER: US/08/141,893 FILING DATE: CLASSIFICATION: 424 PRIOR APPLICATION DATA.	COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:	3 H S K	ADDRESSEE: LAHIVE & COCKFIELD STREET: 60 STATE STREET, SUITE 510 CITY: BOSTON STATE: MASSACHISETTS	APPLICANT: Deeley, Roger G. TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEIN NUMBER OF SEQUENCES: 2 CORRESPONDENCE ADDRESS:	Applicat: 489519 ORMATION		1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531 	1441 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500 	1381 SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440 	1321 EKYGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF 1380 
Q B Q	QQ db	B &	dg VQ	dg Qy	g Qy	B &	B &	g Qy	B &	dg Vy	gg Qy	₽ &	용 성	ß 8	dg dg	B &	? D Q
1141 KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200	1081 DTVDSMIPEVIKMFMGSLFNVIGACIVILLATFIAAIIIFPLGLIYFFVQRFYVASSRQL 1140 	1021 ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFBRTPSGNLVNRFSKEL 1080 	р р	901 LYTDSAGKOLQROLSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL 960 	841 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM 900 	781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840	721 SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGGKQRVSLAR 780 	661 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND 720 	601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660	541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAGTAFVSLALFNILRFPLNILP 600	481 AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK 540 	421 GEIVNIMSVDAQRFMDLATYINNIWSAPLQVILALYLIMLNIGPSVIAGVAVMVIMVPVN 480 	361 WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 420 	301 TVKSPQKEMNPSLFKVLYKTFGPYFLMSFFFKALHDLMMFSGPQTLKLLIKFVNDTKAPD 360	LWSLINEDTSROVEPULVKNWKKECAKTRKOPVKVVYSSKOPAOPKESSKVDANBEVEAL	LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD	TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS

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RESULT 8
US-08-463-092B-2
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APPLICANT: Cole, Susan P.C.

APPLICANT: Deeley, Roger G.

TITLE OF INVENTION: ISOLATED NUCLEIC ACID

TITLE OF INVENTION: MULTIDRUG RESISTANCE

NUMBER OF SEQUENCES: 9

CORRESPONDENCE ADDRESS:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-OCT-1992
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
CLASSIFICATION NUMBER: 08/141,893
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/141,893
FRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/407,207
FILING DATE: 26-OCT-1993
CLASSIFICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION NUMBER: 39,539
REPERENCEY/AGENT INFORMATION:
NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: 01546
TELEPHONE: (613) 545-6853
                                                                                                                                                                                                                                                                                                                                                        ZIP: K7L 3N6

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: ASCII text

CURRENT APPLICATION UMBER: US/08/463,092

PILING DATE: 05-JUN-1995

CLASSIFICATION: 435
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COUNTRY: CANADA
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STREET: Queen's University
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TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: prote
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RESULT 9
US-08-462-109A-2
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GENERAL INFORMATION:
                                                           ZIP: 02109

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,109/
FILING DATE:
FILING DATE:
                                                                                                                                                                                                                                                 APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS OR IDENTIFYING
TITLE OF INVENTION: MULTIDRUG RESISTANT TUMOR CELLS
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION (NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
                                                                                                                                                                                                    ADDRESSEE: LAHIVE & CO
STREET: 60 State Stree
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
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FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DeConti, Giulio A. Jr.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: 9QI-002
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
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TYPE: amino acid
TOPOLOGY: linear
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                                    LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
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                   LNGITFSIPEGALVÄVVGQVGCGKLSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
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Pred. No. 0;
0; Mismatches
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GENERAL INFORMATION:
APPLICANT: Deeley, Roger G.
APPLICANT: Cole, Susan P.C.
APPLICANT: Cole, Susan P.C.
ITITLE OF INVENTION: METHODS FOR CONFERRING MUI
TITLE OF INVENTION: RESISTANCE ON A CELL
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSEE: PARTEQ RESEARCH & DEVELOPMENT IN
STREET: Queen's University at Kingston
                                                                                                                                                                                                                                                                                                                        RESULT 10
US-08-460-907B-2
                                                                                                                                                                                                                                                                     Sequence 2, Application Patent No. 5891724
     CITY: Kingston
STATE: Ontario
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NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: Q1551
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-2342
TELEPAX: (613) 545-6853
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
TYPE: amino acid
TOPOLOGY: linear
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Best Local (
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION NATA:
APPLICATION NUMBER: US/08/460,907B
FILING DATE: 05-JUN-1995
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-OCT-1992
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/029,340
PRIOR APPLICATION DATA:
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Similarity 99.9%;
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DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531
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US-08-463-179A-2
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APPLICANT: Cole, Susan P.C.

APPLICANT: Deeley, Roger G.

TITLE OF INVENTION: METHODS FOR NUMBER OF SEQUENCES: 6

CORRESPONDENCE ADDRESS:

CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 2, Application Patent No. 6001563
                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                             Query Match 79.3%;
Best Local Similarity 99.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/966,923
FILLING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
FILLING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
FILLING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILLING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DECORT, Giulio A. J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/463,179
FILING DATE:
CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: PQI-002CP8
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEPAX: (617) 227-5941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 60 St
CITY: Boston
STATE: Massac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
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                                                                                                                                                                                                                 DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA
                                             LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
                                                                                                                                                                                         DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA
                       LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
                                                                                                      TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS
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Pred. No. 0;
0; Mismatches
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                                                                                                   VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260
                                                                                                                                                            KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200
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                                                                                VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA
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VERLKEYSETEKEAPWQIQETRPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG
                          VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1320
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US-08-461-384B-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application US/0846138
Patent No. 6025473
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: MULTIDRUG
                                                                Query Match 79.3%;
Best Local Similarity 99.9%;
Matches 1529; Conservative
                                                                                                                                                                                                      TELEFAX: (613) 545-6853 INFORMATION FOR SEQ ID NO:
                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE: Unual COUNTRY: CANADA COUNTRY: TANADA 71P: K7L 3N6
                                                                                                                           MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: Queen's
                                                                                                                                       TYPE: amino acid TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1381
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61
DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA
                   MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
                                  MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
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                                                                                                                          protein
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                                                                Score 7849; DF Pred. No. 0; 0; Mismatches
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481 AVMAMKTKTYOVAHMKSKONRIKLMNEILNGIKVLKLYAMELAFKOKVLAIRQEELKVLK 540 481 AVMAMKTKTYOVAHMKSKONRIKLMNEILNGIKVLKLYAMELAFKOKVLAIRQEELKVLK 540 541 KSAYLSAVGTFTWYCTPELVALCTPAVYVTIDENNILDAQTAFVSLALFNILRFILRFPLNILP 600 541 KSAYLSAVGTFTWYCTPELVALCTPAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600 601 MVISSIVQASYSLKHLRIFLSHELLEPDSIERRFVKDGGGTNSITYRNANTFTWARSDPT 660 601 MVISSIVQASYSLKHLRIFLSHELLEPDSIERRFVKDGGGTNSITYRNANTFTWARSDPT 660 601 MVISSIVQASYSLKHLRIFLSHELLEPDSIERRFVKDGGGTNSITYRNANTFTWARSDPT 660 601 MVISSIVQASYSLKHLRIFLSHELLEPDSIERRFVKDGGGTNSITYRNANTFTWARSDPT 660 601 MVISSIVQASYSLKHLRIFLSHELLEPDSIERRFVKDGGGTNSITYRNANTFTWARSDPT 660 601 MVISSIVQASYSLKHLRIFLSHELLEPDSIERRFVKDGGGTNSITYRNANTFTWARSDPT 660 601 MVISSIVQASYSLKHLRIFLSHELLEPDSIERRFVKDGGGTNSITYRNATTYRNASDPT 660 601 MVISSIVQASYSLKHLRIFLSHELLEPDSIERRFVKDGGGTNSITYRNATTYRNASDPT 660 601 MVISSIVQASYSLKHLRIFLSHELLEPDSIERRFVKDGGGTNSITYRNATTYRNASDPT 660 601 MVISSIVQASYSLKHLRIFLSHELLEPDSIERRFVKDGGGTNSITYRNATTYRNASDPT 660 601 MVISSIVQASYSLKHLRIFLSHELLEPDSIELFSGDFTEIGEKVNLSGGGKORVSLAR 780 720 61 LNGITFSIERGALVAVVGQVGCGKLSLLSALLAEMDKVEGHVAIKGSVAYVPQQAMIQND 720 61 LNGITFSIERGALVAVVGQVGCGKLSLLEDLEILLEPDLEILLESGDRTEIGEKVNLSGGGKORVSLAR 780 781 AVYSNADIYLEPDLSANDAHVGKHIFENVIGPKGHLKNKTEILVTHANSYLPQVDVIIV 840 841 NSGGKISEMGSYQELLARDGAFAFFLRTYASTEQEQDAEENGVTUVSGGGKGKAKQMENQM 900 901 LVTDSAGKOLORQLSSSSSYSGDISRHINSTAELQKAEBAKKGETWKLMSACKGETKLATHANSTAELQKAEBAKKGETWKLMSACKGTGVKL 960 901 LVTDSAGKGOLORQLSSSSSYSGDISRHINSTAELQKAEBAKKGETWKLMSACKGTGVKL 960 902 LVTDSAGKGOLORQLSSSSYSGDISRHNSTAELQKAEBAKKGETWKLMSACKGTGVKL 960 903 LVTDSAGKGOLORQLSSSSSYSGDISRHNSTAELQKAEBAKKGETWKLMSACKGTGVKL 960 904 NSGGKISEMGYQGLIKARCHTATHANTAELQKAEBAKKGETWKLMSACKGTGVKL 960 905 LVTDSAGKGOLORQLSSSSSSYSGDISRHNSTAELQKAEBAKKGETWKLMSACKGTGVKL 960 906 SYMDYMK	
US-08-407-207A-2  US-08-407-207A-2  Sequence 2, Application US/08407207A  Sequence 2, Application US/08407207A  Sequence 3, Application US/08407207A  Patent No. 665821  APPLICANT: Deeley, Roger G. APPLICANT: Cole, Susan P.C.  APPLICANT: Cole, Susan P.C.  MUMER OF SEQUENCES: 7  CORRESPONDENCE ADDRESS: 7  CORRESPONDENCE ADDRESS: 7  CORRESPONDENCE ADDRESS: 7  CORRESPONDENCE ADDRESS: 7  COUNTY: KIGSTON  CITY: KIGSTON  COUNTY: CANADA  COUNTY: COLETA  COMPUTER READABLE FORM: MEDIUM TYPE: Ploppy disk COMPUTER: EADABLE FORM: MEDIUM TYPE: Ploppy disk COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP Compatible COMPUTER: IMP COMPATION  APPLICATION NUMBER: 07/966.923  APPLICANTON WIMBER: 09/29.340  APPLICANTON WIMBER: 09/2	Qy 1201 VRLECYGNCIVLFAALFAVISRHSLSAGLYGLSVSYLQVTTYLNWLVRMSSEMETNIVA 1260

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841 MSGKISEMGSYQELLARDGAPABFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM 900	661 LNGITFSIPSALVAVVGQVCGKSSLLSALLAEMDKVEGIVAIKGSVAYVPQQAWIQND 720 [	481 AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIROEELKVLK 540	2_2 S_S 8_8	121 TFLIQLERKGYQSSGIMLTFWIDALYCALAILRSKIMTALKEDAQVDLFRDITFYYYFS 180	milarity 99.9%; Pred. No. 0; Conservative 0; Mismatches 2; Indels 0; Gaps LargecsadgsDpLwdwnvTwnTsNpdfTkCfQNTVLVwVpCfYLwaCfpfYfLYLSRH
FILING DATE: 05-JUN-1995  CLASSIFICATION: 435 PRIOR APPLICATION DATA: APPLICATION NUMBER: 07/966,923 FILING DATE: 27-0CT-1992 CLASSIFICATION DATA: APPLICATION DATA: APPLICATION UNMBER: 08/029,340 FILING DATE: 8-MAR-1993 CLASSIFICATION: 435 PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/141,893 APPLICATION NUMBER: 08/141,893	STREET: Queen's University at Kingston CITY: Kingston STATE: Ontario COUNTRY: CANADA ZIP: K71 3N6 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC COMPATION COMPUTER: PC-DOS/MS-DOS SOFTWARE: ASCII text SOFTWARE: ASCII text APPLICATION DATA: APPLICATION NUMBER: US/08/463,092B	RESULT 14  US-08-463-092B-6  JSequence 6, Application US/08463092B  Fatent No. 5766880  GENERAL INFORMATION: APPLICANT: Cole, Susan P.C. APPLICANT: Deeley, Roger G. ITITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULES ENCODING ITITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS  NUMBER OF SEQUENCES: 9  CORRESSEES: PARTEO RESEARCH & DEVELOPMENT INNOVATIONS	Qy 1381 SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440	1201 1261 1261 1321	Qy 1021 ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL 1080

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FILING DATE: 26-0CT-1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: 01546
TELECOMMUNICATION INFORMATION:
TELEPAN: (613) 545-2342
TELEPAN: (613) 545-6853
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 1528 mainton acids
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Best Local
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TYPE: amino acid
TOPOLOGY: linear
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                                                                 PMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPP
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US-08-462-109A-6
                                                                                                                    Sequence 6, Application US/08462109A Patent No. 5882875
GENERAL INFORMATION:
                                        APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING
TITLE OF INVENTION: MULTIDRUG RESISTANT TUMOR
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, CITY: Boston
STATE: Massachusetts
COUNTRY: USA
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; MOLECULE TYPE: protein US-08-462-109A-6
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: ASCII text
COMPUTER: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,109A
FILING DATE:
CLASSIFICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 31,503
APPLICATION NUMBER: 31,503
APPLICATION NUMBER: 31,503
APPLICATION NUMBER: 901-002CP4
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 901-002CP4
FILING DATE: 27-7400
TELEPAX: (617) 227-7400
TELEPAX: (617) 227-7400
TELEPAX: (617) 227-7400
TELEPAX: (617) 227-1941
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LEBNGTH: 1528 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 1349
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TOPOLOGY: lines-
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                                                DWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSST
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NAVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFQDKVMSIRQEELKVL
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APPLICANT: DERAND, Renaud
APPLICANT: GARCIA, Elisabeth
APPLICANT: PROST, Anne-Lise
APPLICANT: PROST, Anne-Lise
APPLICANT: VIVAUDOU, Michel
TITLE OF INVENTION: ION CHANNEL HYBRID PROTEINS AS
FILE REFERENCE: F263US104
CURRENT APPLICATION NUMBER: US/10/665,283
CURRENT APPLICATION NUMBER: US/10/665,283
CURRENT FILING DATE: 2003-09-22
NUMBER OF SEQ ID NOS: 25
SOFTWARE: Patentin version 3.1
SEQ ID NO 6
LENGTH: 1927
TYPE: PRT
ORGANISM: Homo sapiens
US-10-665-283-6
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                                                          EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF
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Sequence 1, Application US/10665283
Publication No. US20050063989A1
GENERAL INFORMATION:
APPLICANT: COMMISSARIAT A L'ENERGIE ATOMIQUE
APPLICANT: DERAND, Renaud
APPLICANT: GARCIA, Elisabeth
APPLICANT: REOST, Anne-Lise
APPLICANT: REVILLOUD, Jean
APPLICANT: VIVAUDOU, Michel
TITLE OF INVENTION: ION CHANNEL HYBRID PROTE
FILE REFERENCE: F263US104
CURRENT FILING DATE: 2003-09-22
NUMBER OF SEQ ID NOS: 25
SOFTWARE: Patentin version 3.1
SEQ ID NO 1
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US-10-665-283-1
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TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS
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                       DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA
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RESULT 3  US-10-665-283-8  US-10-665-283-8  Sequence 8, Application US/10665283  Publication No. US20050063989A1  GENERAL INFORMATION:  APPLICANT: COMMISSARIAT A L'ENERGIE ATOMIQUE  APPLICANT: GARCIA, Elisabeth  APPLICANT: GARCIA, Elisabeth  APPLICANT: PROST, Anne-Lise  APPLICANT: REVILLOUD, Jean  APPLICANT: VIVAUDOU, Michel  TITLE OF INVENTION: ION CHANNEL HYBRID PROTEINS AS ELECTRICAL SENSORS AND USE THEREOF  CURRENT APPLICATION NUMBER: US/10/665,283  CURRENT STILING DATE: 2003-09-22  NUMBER OF SEQ ID NOS: 25  SOFTWARE: Patentin version 3.1  SEQ ID NO 8  LENGTH: 1947  TYPE: PRT  ORGANISM: Homo sapiens  US-10-665-283-8	1681 LAILLIUQNIVGLMINAIMLGCIFMKTAQAHRRAETLIFSKHAVITLRHGRLCFMLRVG 1741 DLRKSMIISATIHMQVVRKTTSPEGEVVPLHQVDIPMENGVGGNGIFLVAPLIIYHVIDS 1741 DLRKSMIISATIHMQVVRKTTSPEGEVVPLHQVDIPMENGVGGNGIFLVAPLIIYHVIDS 1741 DLRKSMIISATIHMQVVRKTTSPEGEVVPLHQVDIPMENGVGGNGIFLVAPLIIYHVIDS 1801 NSPLYDLAPSDLHHHQDLEIIVILEGVVETTGITTQARTSYLADEILWGQRFVPIVAEED 1801 NSPLYDLAPSDLHHHQDLEIIVILEGVVETTGITTQARTSYLADEILWGQRFVPIVAEED 1801 NSPLYDLAPSDLHHHQDLEIIVILEGVVETTGITTQARTSYLADEILWGQRFVPIVAEED 1801 GRYSVDYSKFGNTIKVPTPLCTARQLDEDRSLLDALTLASSRGPLRAASVAVAKAKPKFS 1921 ISPDSLS 1927 1921 ISPDSLS 1927 1921 ISPDSLS 1927	Db 1201 VRLECYGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260  Oy 1261 VERLKEYSETEKEAPWOIOETAPPSSWFQVGRVEFRNYCLRYREDLDFYLRHINVTINGG 1320  Db 1261 VERLKEYSETEKEAPWOIOETAPPSSWFQVGRVEFRNYCLRYREDLDFYLRHINVTINGG 1320  OY 1261 VERLKEYSETEKEAPWOIOETAPPSSAFQVGRVEFRNYCLRYREDLDFYLRHINVTINGG 1320  OY 1271 EKVGIYGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPODPYLF 1380  OY 1381 SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440  OY 1381 SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440  OY 1441 ARALLEKTKILVLDEATAAVDLETDDLIQSTIRTOFEDCTVLTIAHRLMTIMDYTRVIVL 1500  OY 1501 DKGEIQEYGRFSDLLQQRGLFYSMAKDAGLVGGGGGGMLSRKGIIPEEYVLTRLAEDPAE 1560  OY 1501 DKGEIQEYGRFSDLLQQRGLFYSMAKDAGLVGGGGGGMLSRKGIIPEEYVLTRLAEDPAE 1560  OY 1561 PRYRTHERRARFYSKKGNCNVAHKNIEEQGRFLQDVFTTLVDLKWPHTLLIFTMSFLCSW 1620  OY 1561 PRYRTHERRARFYSKKGNCNVAHKNIEEQGRFLQDVFTTLVDLKWPHTLLIFTMSFLCSW 1620  OY 1621 LLFANYWMLIAFFAHGDLAPGEGTINPCVTSIHSFSSAFLFSIEVQVTIGGGRMYTEECP 1680  OY 1681 LAILILVQNIVGLMINAIMLGCIFMKTAQAHRRAETLIFSSHAVITLRHGRLGFMLTVECP 1680

GENERAL APPLIC APPLIC	961 SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG 1020 ; G	B 8
RESULT 4 US-10-665-283-4 US-10-665-283, Sequence 4, Application US/10665283; Publication No. US20050063989A1		B 성
1921 SRGPLRKRSVAVAKAKPKFSISPDSLS	841 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM 900	95 VQ
1861 YLADEILWGQRFVPIVABEDGF	781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840	B 8
1801	721 SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR 780	B &
1741	661 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND 720	D Qy
1681	601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATPTWARSDPPT 660	g 99
1621	541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILF 600	B 8
1561	481 AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK 540	p 9
1501	421 GEIVNIMSVDAQREMDLATYINMIWSAPLQVILALYLLWLNIGPSVLAGVAVMVLMVPVN 480	D Qy
1441	361 WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 420	d VQ
1381	301 IVKSPQKEWNPSLEKVLYKTEGPYELMSEEFKAIHDLMMESGPQILKLLIKEVNDTKAPD 360 Db	유왕
1321	241 LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL 300   1	당 왕
1261	181 LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD 240	당 왕
1201	121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLERDITFYVYFS 180	dg VQ
1141	61 DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA 120	g Q
1081	CEQNTVLVWVPCEYLWACEPEYELYLSRH 60	p Q
1021 1021 1081	Query Match 99.6%; Score 9861; DB 5; Length 1947; Best Local Similarity 98.9%; Pred. No. 0; Db Matches 1925; Conservative 0; Mismatches 2; Indels 20; Gaps 2; Ov	M B Q

SDLKVDENQKAYYPSIVANRWLA 1200 |||||||||||||||||||| |SDLKVDENQKAYYPSIVANRWLA 1200 TPLCTARQLDEDRSLLDALTLAS 1900 RKTTSPEGEVVPLHQVDIPMENG 1780 AIMLGCIFMKTAQAHRRAETLIF 1740 AIMLGCIFMKTAQAHRRAETLIF 1720 --GEGTNVPCVTSIHSFSSAFLF 1660 ||||||||||||||||||||| YAGEGTNVPCVTSIHSFSSAFLF 1680 TTLVDLKWPHTLLIFTMSFLCSW 1620 MLSRKGIIPEEYVLTRLAEDPAE 1560 |||||||||||||||||||| MLSRKGIIPEEYVLTRLAEDPAE 1560 DCTVLTIAHRLNTIMDYTRVIVL 1500 KLDHECAEGGENLSVGOROLVCL 1440 KLDHECAEGGENLSVGQRQLVCL 1440 YCLRYREDLDFVLRHINVTINGG 1320 |||||||||||||||||||| YCLRYREDLDFVLRHINVTINGG 1320 IIPPLGLIYFFVQRFYVASSRQL 1140 ||||||||||||||||||| IIPPLGLIYFFVQRFYVASSRQL 1140 RSPMSFFERTPSGNLVNRFSKEL 1080 IAKIGLHDLRFKITIIPQDPVLF 1380 LOVITYLNWLVRMSSEMETNÍVA 1260 

APPLICANT: GARCIA, Elisabeth

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; APPLICANT: PROST, Anne-Lise
; APPLICANT: REVILLOUD, Jean
; APPLICANT: VIVAUDOU, Michel
; TITLE OF INVENTION: ION CHANNEL HYBRID PROTE
; FILE REFERENCE: F263US104
; CURRENT APPLICATION NUMBER: US/10/665,283
; CURRENT FILING DATE: 2003-09-22
; NUMBER OF SEQ ID NOS: 25
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
; LENGTH: 1891
; TYPE: PRT
ORGANISM: Homo sapiens
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100.0%; Pred. No. 0;
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APPLICANT: BUTGESS et al.

APPLICANT: BUTGESS et al.

TITLE OF INVENTION: No. US20040039163A1el Pro
FILE REFERENCE: 21402-099

CURRENT APPLICATION NUMBER: US/09/939,853A

CURRENT FILING DATE: 2001-08-27

PRIOR APPLICATION NUMBER: 60/228,191

PRIOR FILING DATE: 2000-08-25

PRIOR APPLICATION NUMBER: 60/267,300

PRIOR FILING DATE: 2001-02-08

PRIOR APPLICATION NUMBER: 60/269,961

PRIOR APPLICATION NUMBER: 60/277,337

PRIOR APPLICATION NUMBER: 60/277,337

PRIOR FILING DATE: 2001-03-20

PRIOR FILING DATE: 2001-03-20

NUMBER OF SEQ ID NOS: 159

SOFTWARE: PATENTIN OS: 159

SOFTWARE: PATENTIN OS: 159

SOFTWARE: PATENTIN OS: 159

TYPE: PRT

ORGANISM: Homo sapiens

US-09-939-853A-86
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DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
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                                                      ARALLEKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL
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RESULT 6
US-10-667-891-6
US-10-667-891-6
; Sequence 6, Application US/10667891
; Publication No. US20040171024A1
; GENERAL INFORMATION:
; APPLICANT: ROTH, CHARLES W.
; APPLICANT: BREEY, PAUL T.
; APPLICANT: HOLM, INGE
; APPLICANT: GRAILLES, WARINE

1501

DKGETQEYGAPSDLLQQRGLFYSMAKDAGLV

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; APPLICANT: RZHETSKY, ANDREY
; TITLE OF INVENTION: MULTIDRUG RESISTANCE PRO
; TITLE OF INVENTION: ANOPHELES
; FILE REFERENCE: 03495.0294-00000
; CURRENT APPLICATION NUMBER: US/10/667,891
; CURRENT FILING DATE: 2003-09-23
; PRIOR APPLICATION NUMBER: 60/413,469
PRIOR FILING DATE: 2002-09-26
; NUMBER OF SEQ ID NOS: 76
; SOFTWARE: PATENTIN Ver. 3.2
; SEQ ID NO 6
; LENCTH: 1531
; TYPE: PRT
; ORGANISM: Homo Bapiens
US-10-667-891-6
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Best Local Similarity
Matches 1531; Conserv
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          AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
                                            SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
                                                                  SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
                                                                                                                        LNGTTFSTPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
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APPLICANT: BREY, PAUL T.
APPLICANT: HOLM, INGE
APPLICANT: GRAILLES, MARINE
APPLICANT: RZHETSKY, ANDREY
TITLE OF INVENTION: MULTIDRUG RESISTANCE PRO
TITLE OF INVENTION: MODELLES
FILE REFERENCE: 03495.0294-01000
CURRENT APPLICATION NUMBER: US/10/807,466
CURRENT APPLICATION NUMBER: 10/667,891
PRIOR PILING DATE: 2003-09-23
PRIOR FILING DATE: 2003-09-23
PRIOR PILING DATE: 2003-09-26
NUMBER OF SEQ ID NOS: 139
SOFTWARE: PATENTIN VEY: 3.2
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US-10-807-466-6
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                                                                                                                                                                                                                                                                                                               Sequence 6, Application US/10807466 Publication No. US20040244066A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                       APPLICANT: ROTH, CHARLES W. APPLICANT: BREY, PAUL T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1441
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LENGTH:
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Best Local Similarity 100.0%;
Matches 1531; Conservative
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LENGTH: 1531
TYPE: PRT
ORGANISM: Homo sapiens
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CURRENT APPLICATION NUMBER: US/10/484,577
; CURRENT FILING DATE: 2004-01-22
; PRIOR APPLICATION NUMBER: PCT/EP 02/08220
; PRIOR FILING DATE: 2002-07-23
; PRIOR APPLICATION NUMBER: EP 01 11 7608.8
; PRIOR FILING DATE: 2001-07-23
; PRIOR APPLICATION NUMBER: EP 02011710.7
; PRIOR FILING DATE: 2002-05-24
; NUMBER: PATENTIAN NUMBER: EP 02011710.7
; PRIOR FILING DATE: 2002-05-24
; NUMBER: OF SEQ ID NOS: 683
; SOFTWARE: PATENTIAN VERSION 3.1
; SEQ ID NO 678
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US-10-484-577-678
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Sequence 678, Application US/10484577
Publication No. US20050032724A1
GENERAL INFORMATION:
                                                  Query Match
Best Local S
Matches 1531
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TITLE OF INVENTION: Means and methods for improved treatment
FILE REFERENCE: F2285PCT-1
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                                                  h 79.4%; Score 7860; D Similarity 100.0%; Pred. No. 0; 31; Conservative 0; Mismatches
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              DTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIVFFVQRFYVASSRQL
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APPLICANI: Bain, Lisa J.

APPLICANT: Bain, Lisa J.

TITLE OF INVENTION: WRP-Related ABC Transporter Encoding
TITLE OF INVENTION: Wacleic Acids and Methods of Use Then
FILE REFERENCE: FCCC 98-02
CURRENT APPLICATION NUMBER: US/10/889,503
CURRENT FILING DATE: 2004-07-12
FRIOR APPLICATION NUMBER: PCT/US99/06644
PRIOR FILING DATE: 2000-09-27
PRIOR APPLICATION NUMBER: FCT/US99/06644
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/079,759
PRIOR APPLICATION NUMBER: 60/079,759
PRIOR APPLICATION NUMBER: 60/095,153
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/095,153
PRIOR FILING DATE: 1998-08-03
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 19
LENGTH: 1531
TYPE: PRT
CRCANISM: Homo Sapiens
US-10-889-503-19
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Best Local Similarity
Matches 1531; Conserv
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APPLICANT: Kruh, Gary D.
APPLICANT: Lee, Kun
APPLICANT: Belinsky, Martin G.
APPLICANT: Bain, Lisa J.
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No. US20050063968A1
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                                                  KRLESVSRSPYYSHENETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
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APPLICANT: AZIZ, NATASHA
APPLICANT: Zlotnik, Albert
TITLE OF INVENTION: MCTHODS OF DIAGNOSIS OF METASTATIC CANCER, COMPOSITIONS
TITLE OF INVENTION: METHODS OF SCREENING FOR MODULATORS OF METASTATIC CANCER
FILE REFERENCE: £11e
CURRENT APPLICATION NUMBER: US/10/756,149
CURRENT FILING DATE: 2004-01-12
NUMBER OF SEQ ID NOS: 5818
SOFTWARE: Patentin version 3.2
SEQ ID NO 5033
LENGTH: 1531
TYPE: PRT
TYPE: PRT
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Best Local Similarity
Matches 1531; Conserv
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WQGYEYTVLLEVTACLQTLVLHQYEHICEVSGMRIKTAVIGAVYRKALVITNSARKSSTV
                                                                      IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
                                                                                                                                        LWSLINKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL
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                                                      IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
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ARALLEKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500
                                                SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440
                                                                                                               EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDFVLF 1380
                                                                                                                                                                                                                                                     KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
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SEQ ID NO 87
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TYPE: PRT
ORGANISM: Homo
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GENERAL INFORMATION:

APPLICANT: Burgess et al.

IIILE OF INVENTION: NO. US20040039163A1el Pro

FILE REFERENCE: 21402-099

CURRENT FILING DATE: 2001-08-27

PRIOR APPLICATION NUMBER: 60/228,191

PRIOR APPLICATION NUMBER: 60/267,300

PRIOR FILING DATE: 2000-08-25

PRIOR APPLICATION NUMBER: 60/269,961

PRIOR APPLICATION NUMBER: 60/269,961

PRIOR APPLICATION NUMBER: 60/277,337

PRIOR FILING DATE: 2001-02-20

PRIOR FILING DATE: 2001-03-20

PRIOR FILING DATE: 2001-03-20

PRIOR FILING DATE: 2001-03-20

NUMBER OF SEO ID NOS: 159
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Best Local Similarity
Matches 1515; Conserv
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                                                                                                    LATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMK
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RESULT 12
US-10-618-281-42
; Sequence 42, Application US/10618281
; Publication No. US20040219609A1
; GENERAL INFORMATION:
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APPLICANT: Estell, David A.
APPLICANT: Lyons, Eric H.
APPLICANT: Yao, Jian
TITLE OF INVENTION: Methods for Modulating Proteins Note of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Contr
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milarity 99.9%;
Conservative
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Pred. No. 0;
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RESULT 13
US-10-408-765A-1718
US-10-408-765A-1718
Sequence 1718, Application US/10408765A
Publication No. US20040101874A1
GENERAL INFORMATION:
APPLICANT: Faby, Eoin D.
APPLICANT: Faby, Eoin D.
APPLICANT: Gibson, Bradford W.
APPLICANT: Taylor, Steven W.
APPLICANT: Taylor, Steven W.
APPLICANT: Warnock, Dale E.
TITLE OF INVENTION: TARGETS FOR THERAPEUTIC INTERVENTION
TITLE OF INVENTION: TARGETS FOR THERAPEUTIC INTERVENTION
CURRENT APPLICATION NUMBER: US/10/408,765A
CURRENT FILING DATE: 2003-04-04
NUMBER OF SEQ ID NOS: 3077
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Best Local Similarity
Matches 1387; Conserv
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SEQ ID NO 1718
LENGTH: 1388
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                                                                         SEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGMLVTDSA
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Qy 1199 LAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNI 1258	Oy 1139 QLKRLESVSRSPVYSHENETILGVSVIRAFEBQERFIHQSDLKVDENQKAYYPSIVANRW 1198	QY 1079 ELDTVDSMIPEVIKMYMGSLFAVIGACIVILLATPIAAIIIPPLGLIVFFVQRFYVASSR 1138	19 YGALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSMSFFERTPSGNLVNRFSK 	QY 960 LSVYMDYMKAIGLFISFLSIFLEMCNHVSALASNYMLSLMTDD-PIVNGTQEHTKVRLSV 1018	Oy 900 MIVTDSAGKQLQROLSSSSSYSGDISRHHNSTÄELQKÄEAKKEETWKLMEADKÄQTGQVK 959      :  :  :  :  :  :  :  :  :  :  :  :	Qy 840 VMSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGFGKEAKQMENG 899	Qy 780 RAVYSNADIYLEDDELSAVDAHVGKHIFENVIGEKGMLKNKTRILVTHSMSYLEQVDVII 839	Qy 720 DSLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLA 779	Qy 660 TLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQN 719	OY 600 PMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPP 659	Qy 540 KKSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNIL 599	Qy 480 NAVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVL 539	OY 420 VGETVNIMSVDAQREMDLATYINMINSAPLQVILALYLLMIJNIGPSVLAGVAVNVLMVPV 4/9	361 DWQGYFYTALLFVSACLQTLALHQYFHICFVSGWRIKTAVVGAVYRKALLITNAARKSST	Db 301 LIVKSPHKDREPSLFKVLYKTFGPYFLMSFLYKALHDLAMFAGPKILELIINFVNDREAP 360  OY 360 DWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSST 419	CY         300 LIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAP 359	Qy 241 LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYS-SKDPAQPKESSKVDANEEVEA 299		181 LLLIQUVLSCFSDRSPLFSETIHDPNPCPESSASPLSRITFWWITGLIVRGYRQPLEGSD	Oy 121 TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS 180

	Qy	Publication No. US20040219609A1  GENERAL INFORMATION: APPLICANT: Day, Anthony G. APPLICANT: Estell, David A. APPLICANT: Lyons, Eric H. APPLICANT: Lyons, Lyons, Eric H. APPLICANT: Lyons, Lyons, Eric H. APPLICANT: Lyons, Lyons, Lyons, Eric H. APPLICANT: Lyons,	Y 1499 VLDKGEIQEYGAPSDLLQQRGL       ::     :     :  b 1496 VLDKGEVRECGAPSELLQQRGI ESULT 15 8-10-618-281-63	Qy 1379 LFSGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLV	QY 1259 VAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTIN	Db
	141 120 201 177 261 237 321 271	10;	Оу Оу	1438 1435 1498	1318 1315 1378 1375	1255

Search Job ti	Дb	δ	Дb	Ş	DЬ
Search completed: December 15, 2005, 15:47:08 Job time : 171.832 secs	1294 YSWAXDAGLV 1303	1522 YSMAKDAGLV 1531	1234 LETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLF 1293	1462 LETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLF 1521	1174 SLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVD 1233

336, App 250, App 2910, App 2910, App 600, App 1150, App 2500, App 90, App 90, App 1

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Total number of hits satisfying chosen parameters:
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1: /cgm2 6/ptcodata/2/pubpaa/US06_NEW_PUB.pep:*

2: /cgm2-6/ptcodata/2/pubpaa/US06_NEW_PUB.pep:*

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4: /cgm2-6/ptcodata/2/pubpaa/US08_NEW_PUB.pep:*

5: /cgm2-6/ptcodata/2/pubpaa/US10_NEW_PUB.pep:*

6: /cgm2-6/ptcodata/2/pubpaa/US11_NEW_PUB.pep:*

7: /cgm2-6/ptcodata/2/pubpaa/US11_NEW_PUB.pep:*

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US-11-082-389-148
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US-10-995-561-578
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Sequence 968, App
Sequence 24, Appl
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Publication No. US20050272054A1

REMERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPONSE, METHODS OF
TITLE OF INVENTION: DETECTION AND USES THEREOF
FILE REFERENCE: CL001559
CURRENT FALLING DATE: 2004-11-24
NUMBER OF SEQ ID NOS: 85702
SOFTMARE: FASTESQ for Windows Version 4.0
SEQ ID NO 968
LENGTH: 1023
TYPE: PRT
ORGANISM: Homo Sapiens
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                       LAALDAHVGQHVFNQVIGPGGLLQGTTRILVTHALHILPQADWIIVLANGAIAEMGSYQE
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US-10-995-561-573
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US-10-793-626-2910
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US-10-467-657-1150
US-11-082-389-92
US-11-082-389-134
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Minimum DB Maximum DB

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Post-processing:

Sequence:

Title: Perfect score:

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Scoring table:

Result No.

Score

Match

Gaps

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2190 2190 2190 2101.5 2100 134.5 969 883.5 786.5 4495.5 449.5 419.5 419.5 413.5 413.5 322.3 303.5 265.5

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APPLICANT: Squillace, Rachel
APPLICANT: Weiner, Michael P.
TITLE OF INVENTION: Immortalized Human Tuberous Sclerosis Null
TITLE OF INVENTION: Angiomyolipoma Cell and Method of Use Thereof
FILE REFERENCE: 24318-502
CURRENT APPLICATION NUMBER: US/11/090,439
CURRENT FILING DATE: 2005-03-25
PRIOR APPLICATION NUMBER: 60/556,344
PRIOR FILING DATE: 2004-03-25
NUMBER OF SEO ID NOS: 62
SOFTWARE: Patentin Ver. 2.1
SEO ID NO 24
LENGTH: 1581
TYPE: PRT
ORGANISM: Homo sapiens
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 Query Match
Best Local Similarity
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21.4%;
Score 2115; DB 7; Pred. No. 3.8e-147;
               Length 1581;
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                                                                                                                                                                      EDPSPERETATDLDIRKRGPVAYASQKPWLLNATVEENIIFESPFNKQRYKMVIEACSLQ
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                                                         FEHWKTLMN-RODOELEKETVT----ERKATEPPOG-----
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                            DISRHHNSTAELQKAEAKKEETWKLMEADKA-----QTGQVKLSVYWDYMKAIGLFISFL 977
                                                                                    AEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSG
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APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPON
TITLE OF INVENTION: DETECTION AND USES THEREOF
FILE REFERENCE: CL001559
CURRENT APPLICATION NUMBER: US/10/995,561
CURRENT FILING DATE: 2004-11-24
NUMBER OF SEQ ID NOS: 85702
SOPTWARE: FESTSEQ for Windows Version 4.0
SEQ ID NO 527
LENGTH: 1588
TYPE: PRT
ORGANISM: Homo sapiens
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US-10-995-561-527
j Sequence 527, Application US/10995561
j Publication No. US20050272054A1
j GENERAL INFORMATION:
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MLLFVLVCEIAEGILSDGVTESHHLHLYMPAGMAFMAAVTSVV--YYHNIETSNFPKLLI
                         ADLFYSFWERSRGIFLAPY-----FLVSPT----LLGITTLLATFLIQLERRKGVQSSG 136
                                                                                  CFQNTVLVWVPCFYLWACFPFYFL-YLSRHDRGYIQMTPLNKTKTALGF----LLWIVCW 86
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                                                       CFVDALNVVPHVFLLFITFPILFIGWGSQSSKVHIHHS-----TWLHFPGHNLRWILTF
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                                                                                                                Conservative
                                                                                                             21.2%; Score 2101.5; DB 6; 31.8%; Pred. No. 3.7e-146; tive 305; Mismatches 564;
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             I---VLCLVTSVTVEWTGLKVAKRLHRSLLNRIILAPMRFFETTPLGSILNRFSSDCNTI
                                                                                                                                          DISRHHNSTAELQKAEAKKEETWKLMEADKA-----QTGQVKLSVYWDYMKAIGLFISFL
                                                                                                                                                                                 FEHWKTLMN-RODOELEKETVT----ERKATEPPQG-----LSRAMSSRDGL--
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                                                                   LVFSQLLKHMVLVAIDYWLAKWIDSALTLTPAARNCSLSQECTLDQTVYAMVFTVLCSLG
                                                                                              SIFLFMCNHVSALASNYWLSLWTDDPIV-----NGTQEHT-----KVRLSVYGALG
                                                                                                                                                                                                                                            Q----AGILELLRDDKRTVVLVTHKLQYLPHADWIIAMKDGTIQREGTLKDFQRSECQL
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                                                                                                                             <u>LODEEEEEEAAESEEDDNLSSMLHORAEIPWRACAKYLSSAGILLLSL</u>
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RESULT 4

US-11-090-439-26

US-11-090-439-26

Sequence 26, Application US/11090439

Publication No. US20050266442A1

GENERAL INFORMATION:
APPLICANT: Squillace, Rachel
APPLICANT: Weiner, Michael P.
TITLE OF INVENTION: Immortalized Human Tuberous Sclerosis Null
TITLE OF INVENTION: Angiomyolipoma Cell and Method of Use Thereof
FILE REFERENCE: 24318-502

CURRENT APPLICATION NUMBER: US/11/090,439

CURRENT FILING DATE: 2005-03-25

PRIOR APPLICATION UNMBER: 60/556,344

PRIOR FILING DATE: 2004-03-25

NUMBER OF SEQ ID NO 26

LENGTH: 1581

TUBE: PatentIn Ver. 2.1
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                                                                                                                                                                                                                  CFQNTVLVWVPCFYLWACFPFYFL-YLSRHDRGYIQMTPLNKTKTALGF----LLWIVCW
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CFSDRSPLFSET---IHDPNPCPESSASFL-----SRITFWWITGLIVRGYRQPLEGS
                                                                                 IMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITF-----YVYFSLLLIQLVLS
                                                                                                                   MLLFVLVCEIAEGILSDGVTESHHLHLYMPAGMAFMAAVTSVV--YYHNIETSNFPKLLI
                                                                                                                                                                                   CFVDALNVVPHVFLLFITFPILFIGWGSQSSKVHIHHS-----TWLHFPGHNLRWILTF
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                                                  ALLVYWTLAFI-----TKTIKFVKLLDHAIGFSQLRFCLTGLLVILYGMLLLVE--VN
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 NVIGPKGMLK-----NKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAFA 863
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                           SVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLE 1204
                                                                   QHIPSTLECLSRSTLLCVSALAVISYVTPVFLVALLPLAVVCYFIQKYFRVASRDLQQLD
                                                                                    SMIPEVIKMEMGSLENVIGACIVILLATPIAAIIIPPLGLIYEFVQREYVASSRQLKRLE
                                                                                                                                                  SQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVD: |: | |: :| || || || || || :::|| || :::|
                                                                                                                                                                                                   VFSQLLKHMVLVAIDYWLAKWTDSALTUTPAARNCSISQECTLDQTVYAMVFTVLCSIGI 1075
                                                                                                                                                                                                                                                                                                                                    HWKTLMN-RQDQELEKETVT----ERKATEPPQG--
                                                                                                                                                                                                                                                                                                                                                                                                      ----AGILELLRDDKRTVVLVTHKLQYLPHADWIIAMKDGTIQREGTLKDFQRSECQLF 924
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -NDTKAPDWQ------GYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKT 397
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                                                                                                                                 ---VLCLVTSVTVEWTGLKVAKRLHRSLLNRIILAPMRFFETTPLGSILNRFSSDCNTID 1132
                                                                                                                                                                                                                                    IFLFMCNHVSALASNYWLSLWTDDPIV------NGTQEHT-----KVRLSVYGALGI 1024
                                                                                                                                                                                                                                                                   -----LODESEEEEEAAESEEDDNLSSMLHQRAEIPWRACAKYLSSAGILLLSLL
                                                                                                                                                                                                                                                                                                     ISRHHNSTAELQKAEAKKEETWKLMEADKA-----QTGQVKLSVYWDYMKAIGLFISFLS
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RESULT 5
US-10-995-561-526
US-10-995-561-526
Sequence 526, Applicat
Publication No. US2005
GENERAL INFORMATION:
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APPLICANT: CARGILL, Michele et al.

TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH

TITLE OF INVENTION: CARDIDVASCULAR DISORDERS AND DRUG RESPON

TITLE OF INVENTION: DETECTION AND USES THEREOF

FILE REFERENCE: CL001559

CURRENT APPLICATION NUMBER: US/10/995,561

CURRENT FILING DATE: 2004-11-24

NUMBER OF SEQ ID NOS: 85702

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 526

LENGTH: 1404

TYPE: PRT

ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 369; Conserv
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     VIRVRRYIFFKTPREVKP-PEDLQDLGVRFLQPFVNLLSKGTYWWMNAFIKTAHKKPI--
                                                                                                                                                                                                                                                               MLLFVLVCEIAEGILSDGVTESHHLHLYMPAGMAFMAAVTSVV--YYHNIETSNFPKLLI 137
                                                                                                                                                                                                                                                                                                                                                             CFQNTVLVWVPCFYLWACFPFYFL-YLSRHDRGYIQMTPLNKTKTALGF----LLWIVCW
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                                                                                                  SDLWSLNKEDTSEQVVPVLVK---NWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANE 295
                                                                                                                                                                CFSDRSPLFSETIHDPNPCPES-----SASFLSRITFWWITGLIVRGYRQPLEG
                                                                                                                                                                                                                                                                                             ADLFYSFWERSRGIFLAPV-----FLVSPT----LLGITTLLATFLIQLERRKGVQSSG 136
                                                                                                                                                                                                                                                                                                                               CFVDALNVVPHVFLLFITFPILFIGWGSQSSKVHIHHS----TWLHFPGHNLRWILTF
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                                                                                                                                                                                                                                                                                                                                                                                              Indels 243;
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RESULT 6
US-10-995-561-969
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                                                                                                                    ECVGNCI 1210
                                                                                                                                                                              ESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRL 120:
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                                                                                    -AIHRCM
     Application US/10995561
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; Publication No. US20050272054A1
; GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: DETECTION AND USES THEREOF
; TILLE REFERENCE: CL001559
; CURRENT APPLICATION NUMBER: US/10/995,561
; CURRENT FILING DATE: 2004-11-24
; NUMBER OF SEQ ID NOS: 85702
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 969
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US-10-995-561-969
               PRIOR APPLICATION NUMBER: US/09/275,252
PRIOR FILING DATE: 1999-03-24
PRIOR PELICATION NUMBER: US 09/045,529
PRIOR FILING DATE: 1998-03-20
PRIOR FILING DATE: 1998-03-20
PRIOR FILING DATE: 1998-04-02
PRIOR APPLICATION NUMBER: WS 09/054,347
PRIOR FILING DATE: 1998-04-02
PRIOR FILING DATE: 1998-03-22
PRIOR FILING DATE: 1999-03-22
PRIOR FILING DATE: 1999-03-22
PRIOR FILING DATE: 1999-03-22
PRIOR FILING DATE: 1999-03-22
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                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 14, Application US/10613744 Publication No. US20050272093A1
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Best Local
                                                                                                                                                                                                              APPLICANT: MacKinnon, Roderick
APPLICANT: The Rockefeller University
TITLE OF INVENTION: Assays for Screening Compounds Which Interact
TITLE OF INVENTION: Cation Channel Proteins, Mutant Prokaryotic C
TITLE OF INVENTION: Channel Proteins, and Uses Thereof
FILE REFERENCE: 018512-002901US
CURRENT APPLICATION NUMBER: US/10/613,744
CURRENT FILING DATE: 2003-07-03
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TYPE: PRT
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PatentIn Ver.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RE:
TITLE OF INVENTION: DETECTION AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                              FILE REFERENCE: CL001559
CURRENT APPLICATION NUMBER: US/10/995,561
CURRENT FILING DATE: 2004-11-24
NUMBER OF SEQ ID NOS: 85702
SOFTWARE: FRATSEQ for Windows Version 4.0
SEQ ID NO 967
LENGTH: 268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 967, Application US/10995561 Publication No. US20050272054A1
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Best Local Similarity
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                                                                                                                                                                                                                                    1264 LKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKV 1323
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                                                                         LRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARA 1443
LLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKG
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                                                                                                                                 GIVGRTGAGKSSLASGLLRLQEAAEGGIWIDGVPIAHVGLHTLRSRISIIPQDPILFPGS
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                                                        LRMNLDLLQEHSDEAIWAALETVQLKALVASLPGQLQYKCADRGEDLSVGQKQLLCLARA
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                                                                                                                                                                                                                                                                                  8.1%; Score 799; DB 6;
56.3%; Pred. No. 1.3e-51;
ative 56; Mismatches 61
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PRIOR APPLICATION NUMBER: US 09/045,529
PRIOR PILING DATE: 1998-03-20
PRIOR PILING DATE: 1998-04-02
PRIOR PILING DATE: 1998-04-02
PRIOR PILING DATE: 1998-04-02
PRIOR FILING DATE: 1999-03-22
NUMBER OF SEQ ID NOS: 42
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 13
LENGTH: 391
TYPE: PRT
                                                      RESULT 10
US-10-793-626-326
; Sequence 326, Application US/10793626
; Publication No. US20050255478A1
; GENERAL INFORMATION:
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US-10-613-744-13
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Best Local
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CURRENT APPLICATION NUMBER: US/10/613,744
CURRENT FILING DATE: 2003-07-03
PRIOR APPLICATION NUMBER: US/09/275,252
PRIOR FILING DATE: 1999-03-24
  APPLICANT: KIMMERLY, WILLIAM JOHN TITLE OF INVENTION: STAPHYLOCOCCUS FILE REFERENCE: PU3480US
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TITLE OF INVENTION: Assays for Screening Compounds Which Interact With
TITLE OF INVENTION: Channel Proteins, Mutant Prokaryotic Cation
TITLE OF INVENTION: Channel Proteins, and Uses Thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: MacKinnon, Roderick APPLICANT: The Rockefeller Un:
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QVAESGSPAQLLAQKGLFYRLAQESGLV
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                                                                                                                                                                                                                                                                                                                                  IDSNSPLYDLAPSDLHHHQDLEIIVILEGVVETTGITTQARTSYLADEILWGQRFVPIVA 1857
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ilarity 46.2%;
Conservative
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Pred. No. 1.9e-50;
75; Mismatches 89
                     EPIDERMIDIS
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US-10-467-657-1346
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                                  GENERAL INFORMATION:
APPLICANT: CHIRON SPA
APPLICANT: FONTANA MARIA Rita
APPLICANT: PIZZA MARIAGRAZIA
APPLICANT: MIZZA MARIAGRAZIA
APPLICANT: MASIGNANI Vega
APPLICANT: MONACI Elisabetta
APPLICANT: MONACI Elisabetta
APPLICANT: MONACI Elisabetta
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APPLICANT: MONACI Elisabetta
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LENGTH: 548

TYPE: PRT

ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: amino acid sequence
                                                                                                                                                                                  Sequence 1346, Application US/10467657 Publication No. US20050260581A1
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/10/793,626
CURRENT FILING DATE: 2004-03-04
PRIOR APPLICATION NUMBER: 60/164,258
PRIOR FILING DATE: 1999-11-09
NUMBER OF SEQ ID NOS: 4472
SOFTWARE: Patentin Ver. 2.1
CURRENT APPLICATION NUMBER: US/10/467,657
                   FILE REFERENCE
                                                                                                                                                                                                                                                                                                                                                    1489 NTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLF---YSM 1524
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27.1%;
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; CURRENT FILING DATE: 2003-08-11; PRIOR APPLICATION NUMBER: GB-01034; PRIOR FILING DATE: 2001-02-12; NUMBER OF SEQ ID NOS: 9218; SOFTWARE: SeqWin99, version 1.04; SEQ ID NO 1346; LENGTH: 622; TYPE: PRT; ORGANISM: Neisseria gonorrhoeae US-10-467-657-1346
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US-11-082-389-148
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Best Local Similarity
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                 APPLICANT: Zelder, Oskar
APPLICANT: Haberhauer, Gregor
ITILE OF INVENTION: CORYNEBACTERIUM GLUTAMICUM GENES ENCODING
TITLE OF INVENTION: INVOLVED IN MEMERANE SYNTHESIS AND MEMERA
TITLE OF INVENTION: TRANSPORT
FILE REFERENCE: BGI-131CPCN
CURRENT APPLICATION NUMBER: US/11/082,389
CURRENT FILING DATE: 2005-03-16
PRIOR APPLICATION NUMBER: US 09/603024
PRIOR APPLICATION NUMBER: US 60/141031
PRIOR FILING DATE: 2000-06-23
PRIOR FILING DATE: 1999-06-25
                                                                                                                                                                                                                                                                   APPLICANT: Pompejus, Markus
APPLICANT: Kroger, Burkhar
APPLICANT: Schroder, Hartw
APPLICATION NUMBER: US 60/143262
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGI 1356
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Pred. No. 9.6e-29;
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RESULT 13 US-10-995-561-575

Application US/10995561 o. US20050272054A1

; Sequence 575, Application No. USZON Publication No. USZON GENERAL INFORMATION: APPLICANT: CARGILL, N. TITLE OF INVENTION: C. TITLE OF INVENTION: TITLE OF INVENTION:

Michele et al.
GENETIC POLYMORPHISMS ASSOCIATED WITH
CARDIOVASCULAR DISORDERS AND DRUG REI
DETECTION AND USES THEREOF

RESPONSE, METHODS

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; TYPE: PRT ; ORGANISM: Corynebacterium glutamicum US-11-082-389-148
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LENGTH: 549
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR FILING DATE: 1999-07-08
PRIOR APPLICATION NUMBER: DE 19932134.5
PRIOR FILING DATE: 1999-07-09
PRIOR APPLICATION NUMBER: DE 19941379.7
PRIOR FILING DATE: 1999-08-31
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PRIOR FILING DATE: 1999-07-08
PRIOR APPLICATION NUMBER: DE 19931550.7
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PRIOR APPLICATION NUMBER: US 60/151281
PRIOR FILING DATE: 1999-08-27
PRIOR APPLICATION NUMBER: DE 19930487.4
PRIOR FILING DATE: 1999-07-01
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Local Similarity 26.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1134 VASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAF----EEQERFIHQS------DLKVD 1183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1031 FGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFER-----TPSGNLVNRFSKELDTVD 1084
491
                                                                                         431
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PDATKLIVAQRVSTIRDADQIVVLDNGEVVGIGTHTNLLNTCGTY 535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SMIPEVIKMFMGSLFNVIGACI------VILLATPIAAIIIPPLGLIYFFVQRFY 1133
                                      EDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLF
                                                                                       EGLDSEIAQGGTNVSGGQRQRLAIARALLKQPEIYIFDDSFSALDVSTDAALRRALSTNL
                                                                                                           DKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQF 1476
                                                                                                                                                                EPLKLMDRIGLVPQKSFLFSGTIASNL----RYGNEDATETQLWQALAIAQAADFVREMP
                                                                                                                                                                                                                                                                                                         REDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLF-RINESAEGEIIIDGINIAKI 136:
                                                                                                                                                                                                                                                                                                                                                                                                   LNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQET-APPSSWPQVGRVEFRNYCLRY 1302
                                                                                                                                                                                                                                                                                                                                                                                                                                              NLMALMFPAVM----LIMNLSAVA---VIWFGAFQVESGET-QIGTLFAFLQYIMQILMG 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTY 1243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QTMQKRIDRINQIIR------EQLTGIRVIRAFVREDVERERFTTASKDVADIGVRTG
                                                                                                                                                                                                                     GLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSDE----EVWTSLELAHLKDFVSALP 1416
                                                                                                                                                                                                                                                                  PGADDPVLNNVSFRVAPGSTTAIIGSTGSGKTTL-IGLVPRLFDVTEGDVTVDGTDVREF
                                                                                                                                                                                                                                                                                                                                                          VMMAAFMFVMVPRAAVSADRIGEVLETTPSV--QAPETPÄQPST--SAGEIVFNNATFAY 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FGSKLSMRVGR------DLRSAIFGKVVNFSEREMGQFGAPS--LITRNTNDVQQVQ 98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative 110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 468.5; DB 7
Pred. No. 7.7e-27;
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CURRENT APPLICATION NUMBER: US/10/995,561
CURRENT FILING DATE: 2004-11-24
NUMBER OF SEQ ID NOS: 85702
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 575
SEQ ID NO 575
LENGTH: 701
TYPE: PRT
ORGANISM: Homo sapiens
US-10-995-561-575
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPO!
TITLE OF INVENTION: DETECTION AND USES THEREOF
FILE REFERENCE: CL001559
CURRENT APPLICATION NUMBER: US/10/995,561
CURRENT FILING DATE: 2004-11-24
NUMBER OF SEQ ID NOS: 85702
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 574
LENGTH: 808
TYPE: PRT
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US-10-995-561-574
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                                                                                                                                                                                                                                                                                                                                                          643
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YEHRYLHROVAAVGQEPQVFGRSLQENIAYGLTQKPTMEEITAAAVKSGAHSFISGLPQG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SENISLFLWYL--VRGLCLLGIMLWGSVSLTMVTLITLPLLFLLPKKVGKWYQLLEVQVR 310
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25.2%; Pred. No. 4.5e-23;
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US-11-105-268-53
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LENGTH: 808
                                      Matches
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                                    149;
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; ORGANISM: Homo sapiens US-10-995-561-574
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                                                                                                Query Match
Best Local Similarity
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Allan, Christian
TITLE OF INVENTION: ANTI-IL-9 ANTIBODY FORMULATIONS
FILE REFERENCE: 10771-126-999
CURRENT APPLICATION NUMBER: US/11/105,268
CURRENT FILING DATE: 2005-04-12
PRIOR APPLICATION NUMBER: 60/561,845
PRIOR FILING DATE: 2004-04-12
                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: PatentIn version
                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 60
                                                                                                                                                                                                                                        ORGANISM: Homo sapiens
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977 LSIFLFM--CNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --REDLDFYLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAK 1360
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                                                            4.2%; Score 419.5; DB 7; ilarity 25.2%; Pred. No. 5.6e-23; Conservative 130; Mismatches 234;
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                                                                Indels
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4800.712 Million cell updates/sec
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Ady86943 MRP1-mous Ady86938 Human MRP Ady86938 Human MRP Ady86945 Human MRP Ady86947 Human MRP Aaw74471 Human mul Aaw99894 Human mul Aaw99894 Human mul Aay75799 Human mul Aay75799 Human mul Aay76873 Multidrug Abg61810 Proetate Adm35012 Cancer ba Adb20865 MRP1 base Adb87954 Human MDR Adb87954 Human MDR Adb9612128 Human MDR Add44764 Human Pro Adn97111 MRP1 prot Adu06426 Novel bro Adw06202 Cyclin-de Adn95929 Human BCC Aar54928 Multidrug Aaw57485 Human mul Aaw57485 Human mul Aaw74470 Human mul
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ALIGNMENTS

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7002.5	7002.5	7002.5	7002.5	7037	7194	7195.5	7230.5	7500.5	7510.5	7535	7560.5	7572	7587.5	7587.5	7610	7763	7849	7849	7849	7849
70.7	70.7	70.7	70.7	71.1	72.7	72.7	73.0	75.8	75.9	76.1	76.4	76.5	76.6	76.6	76.9	78.4	79.3	79.3	79.3	79.3
1528	1528	1528	1528	1388	1417	1416	1530	1472	1472	1475	1482	1481	1482	1482	1489	1515	1531	1531	1531	1531
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Aay55800 Murine mu	Aaw99895 Mouse mul	Aaw74472 Mouse mul	Aaw57487 Murine mu	Adj69912 Human hea		Adx06208 Cyclin-de	Adf56611 Bovine MR	Aar96954 Multi-dru	Adx06204 Cyclin-de	Adx06206 Cyclin-de	Aar96953 Multi-dru	Abp52108 Homo sapi	Adp23422 PRO polyp	Adn03902 Antipsori	Aar96952 Multi-dru	Adu24094 Human cys	Aab03582 Multidrug	Aay78872 Human mul	Aay55798 Human mul	Aaw99893 Human mul

## Region Region /note= "Wild-type Lys substituted by Misc-difference 1908 Ionophore; biosensor; drug screening; diagnostic; microorganism detection; potassium channel; fusion protein; multidrug resistance protein 1; MRP1; Kir6.2; mutein. 22-SEP-2003; 2003US-00665283 24-MAR-2005. Misc-difference Region Chimeric. Homo sapiens. Mus musculus. MRP1-mouse Kir6.2 mutant US2005063989-A1. 02-JUN-2005 ADY86943; ADY86943 standard; protein; 1927 AA. (first entry) 1907 1532. .1537 /note= "Hexaglycine spacer" 1538. .1927 Location/Qualifiers /note= "Wild-type Arg substituted by Ala" /note= "Multidrug resistance protein 1 (MRP1)" note= "Kir6.2 mutant protein" (KR370AA) fusion protein, SEQ Ala" Ħ . O g

New ion channel hybrid protein, used as electrical sensor for screening an agonist/antagonist of a membrane protein and for detecting a contaminant/pollutant in a sample.

WPI; 2005-252611/26.

Derand R,

Garcia E,

Prost A,

Revilloud

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Vivaudou

22-SEP-2003; 2003US-00665283.

(COMS ) COMMISSARIAT ENERGIE ATOMIQUE.

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AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV

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Query Match
Best Local Similarity
Matches 1927; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention relates to a hybrid protein consisting essentially of the fusion of a membrane protein with an ion channel which is not naturally coupled to the membrane protein. The hybrid protein is used as an electrical sensor for screening of an agonist/antagonist of a membrane protein, drugs and for detecting a contaminant/pollutant in a sample. The invention is also useful for medical diagnostics and microorganism detection. The present sequence is a fusion protein comprising human multidrug resistance protein 1 (MRP1) and mouse inner rectifier potassium channel Kir6.2 mutant (KR370AA) protein.
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                                                                                    LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
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AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
                                                   SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
                                                                                                                                                  MVISSIVQASVSLKRLRIFLSHEELEFDSIERRPVKDGGGTNSITVRNATFTWARSDPPT
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                                      SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
                                                                                                                                      MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT
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                                                                                                                                                                                                                                                                                                                                                                                                                   New ion channel hybrid protein, used as electrical sensor for
an agonist/antagonist of a membrane protein and for detecting
contaminant/pollutant in a sample.
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The present invention relates to a hybrid protein consisting essentially of the fusion of a membrane protein with an ion channel which is not naturally coupled to the membrane protein. The hybrid protein is used as an electrical sensor for screening of an agonist/antagonist of a membrane protein, drugs and for detecting a contaminant/pollutant in a sample. The invention is also useful for medical diagnostics and microorganism detection. The present sequence is a fusion protein comprising human multidrug resistance protein 1 (MRP1) and mouse inner rectifier potassium channel Kir6.2 protein containing HA epitope peptide.
                                                                                                                                                                                           New ion channel hybrid protein, used as electrical sensor for
an agonist/antagonist of a membrane protein and for detecting
contaminant/pollutant in a sample.
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1538. .1947
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1651. .1659
/note= "HA epitope peptide"
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Query Match
Best Local Similarity
Matches 1925; Conserv Conservative 99.6%; Score 9861; D Pred. No. 0; 0; Mismatches 0, DВ 9; 2; Length 1947; Indels 20; Gaps

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                       IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
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                                                              LWSLNKEDTSEQVVPVLVKVWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL
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Mus musculus
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1532. .1537
/note= "Hexaglycine spacer"
1538. .1891
/note= "Kir6.2 mutant deltaC36 p
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present invention relates to a hybrid protein consisting essentially of the fusion of a membrane protein with an ion channel which is not naturally coupled to the membrane protein. The hybrid protein is used as an electrical sensor for screening of an agonist/antagonist of a membrane protein, drugs and for detecting a contaminant/pollutant in a sample. The invention is also useful for medical diagnostics and microorganism detection. The present sequence is a fusion protein comprising human multidrug resistance protein 1 (MRP1) and mouse inner rectifier potassium channel Kir6.2 mutant detaC36 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New ion channel hybrid protein, used as electrical sensor for
an agonist/antagonist of a membrane protein and for detecting
contaminant/pollutant in a sample.
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                                                       DLRKSMIISATIHMQVVRKTTSPEGEVVPLHQVDIPMENGVGGNGIFLVAPLIIYHVIDS
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08-MAR-1993;
26-OCT-1993;
20-MAR-1995;
                                                                                                                                                                                                     This represents a variant of the human multidrug resistance-associated protein (MRP). This natural variant is a leismania P-glycoprotein related molecule ltPgpA (Lei/PgpA). The human and murine MRP nucleic acid molecules can be used as probes for identifying multidrug resistant tumour cells by hybridisation to mRNA from tumour cells. The antisense nucleic acid can be used to reverse multidrug resistance (MDR). A recombinant expression vector containing the MRP nucleic acid molecules operatively linked to at least one regulatory sequence can be used to transform a host cell to produce a recombinant MDR-associated protein
                                                                                                                                                                            Sequence
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                                       MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
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08-MAR-1993;
26-OCT-1993;
20-MAR-1995;
The invention relates to a method for identifying a multidrug residency tumour cell. Compositions and methods utilising the MDR process be used to treat patients with tumours displaying multidrug resistance, particularly those displaying resistance to anthracy epipodophyllotoxins, vinca alkaloids, and hydrophobic drugs. The
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                                                                                                                                                                                                                                                              Identifying a multidrug resistant tumor cell by contacting the cell with an antibody/antigen-binding fragment - which binds to an expressed protein encoded by multidrug resistance-associated protein (MRP) nucleic
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93US-00029340.
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for inhibiting/killing a MDR tumour cell can be useful for treating breast cancer, leukaemias, fibrosarcomas, cervical cancer, gliomas, cthyomas, neuroblastomas and lung cancer. The MDR DNA sequences when clabeled are useful as molecular probes for diagnosing multidrug resistance of a tumour (using cells from a tumour biopsy) and for designing ribozymes which are capable of cleaving a single-stranded nucleic acid encoding a protein having MRP activity. Recombinant expression vectors containing human MDR coding sequences can be cransfected into a drug sensitive cell line to produce a protein in the cell which confers MDR, protecting non-resistant non-rumour cells from the effects of chemotherapeutics has major clinical importance. Cells transformed with the MDR coding sequences are useful for testing confersion the respective agents for their effectiveness against MDR cells and for identifying chemosensitisers of a therapeutic agent

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           SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
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The present sequence represents a human multidrug resistance-associated protein (MRP). The present invention also describes a method for protecting a mammalian cell against the cytotoxicity of anthracyclines, epipodophyllotoxins and Vinca alkaloids (A) by introducing into it a nucleic acid (I) that hybridizes under stringent conditions to a nucleic acid (II) that encodes an MRP protein (III). Introduction of (I) protects cells against cytotoxic effects of (A), particularly to protect normal cells against (A) being used for treatment of cancers. Cells transformed with (I) can be used to screen for agents that affect multidrug resistant cells, i.e. potential therapeutics for multidrug-resistant cancers. Conferring resistance to normal cells should allow an increase in the dose of (A)
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26-OCT-1993;
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                                                            GEIVNIMSVDAQRFMDLATYINMIWSAPLQVILALYLLMINIGFSVLAGVAVMVLMVPVN
                                                                                                 WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
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Claim 3;

Col 69-80; 77pp; English.

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27-OCT-1992;
08-MAR-1993;
26-OCT-1993;
20-MAR-1995;
                                                                                                                                                                                                                                                                                                                                  Chemosensitizer; multidrug resistance-associated protein; MRP; human; therapeutic agent; P-glycoprotein-mediated multidrug resistance; lung; cancer; variant.
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                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                                                Human multidrug resistance-associated protein
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                                                                                             Identification of chemosensitizers useful for treating cancer, using nucleic acids encoding multidrug resistance-associated protein.
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B S Query Match Best Local S Matches 1531 The invention provides a method for identifying a substance which is a chemosensitizer that comprises, contacting a cell transfected with nucleic acid encoding multidrug resistance-associated protein (MRP) with a therapeutic agent in vitro. The method is useful for identifying chemosensitizers which may then be used to treat cancer (especially lung cancer). The method allows the identification of chemosensitizers which do not reverse P-glycoprotein-mediated multidrug resistance. The present sequence represents a human MRP variant atch 79.4%; cal Similarity 100.0%; 1531; Conservative ( ш μ. 1531 8 <u>,</u> Score 7860; D Pred. No. 0; 0; Mismatches BB ω -0; Length 1531; Indels °; Gaps 60

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Isolated protein conferring multidrug resistance, selected from anthracyclines, epipodophyllotoxins a drug sensitive mammalian cell. to at least two drug and Vinca alkaloids, 9

10; Col 79-88; 78pp; English.

This sequence represents a human multidrug resistance protein (MRP) natural variant amino acid sequence. The human MRP confers multidrug resistance, including resistance to at least two drugs selected from anthracyclines, epipodophyllotoxins and Vinca alkaloids, on a drug sensitive mammalian cell, when the protein is expressed in the cell. The multidrug resistance is not substantially reversed by chemosensitizers which reverse P-glycoprotein-mediated multidrug resistance. The MRP protein sequence can be used to generate antibodies against MRP. The MRP protein and nucleotide sequences can be used in compositions which are used to treat patients with tumours displaying multidrug resistance. The compositions and methods of the invention can be used particularly to treat breast cancer, leukaemias, fibrosarcomas, cervical cancer, gliomas, thymonas, neuroblastomas, and lung cancer. Antibodies directed against MRP can be used to inhibit the multidrug resistance of a multidrug

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                                                             AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
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                             SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG
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The present invention relates to methods of detecting a prostate cancer-
cassociated transcript in a cell from a patient. The method comprises
contacting a biological sample from the patient with prostate cancer-
cassociated polymucleotides (designated PC genes) that selectively
chybridise to a sequence that is at least 80% identical to them. The
cypressed in prostate tumour tissue or in prostate cancer and are derived
cypressed in prostate tumour tissue or in prostate cancer and are derived
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cypressed in prostate cancer. The nucleic acid sequences are particularly
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                                       SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL
                                                                                             EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF 1380
                                                                                                                                              VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG
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Best Local Sim
Matches 1531;
                                                                                                                                                                                                                                                                                              The present invention describes a method for the use of irinotecan (I) controlled the preparation of a pharmaceutical composition for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject having a genome with a variant allele which comprises a multidrug resistance protein I (MRP1) polymucleotide (II). (I) has cytostatic activity. (I) or its derivative can be used for the preparation of a pharmaceutical composition for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject, where the subject is a human (preferably African or Asian) or a mouse. The present sequence represent a sequence which is used in the exemplification of the present invention
                                                                                                                                                                                                                                                                       Sequence
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24-MAY-2002;
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lung cancer; ovarian cancer; pancreatic cancer;
variant allele; multidrug resistance protein 1;
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The invention relates to the novel use of irinotecan to treat a patient suffering from cancer. This involves determining if the patient has one or more variant alleles of the UGTIA1 gene, and if the patient has one or more of such variant alleles, irinotecan is administered in an increased or decreased amount in comparison to the amount that is administered without regard to the patient's alleles in the UGTIA1 gene. The invention has cyrostatic activity. A composition of the invention acts as a topoisomerase I inhibitor. The method is useful for treating a patient, an animal e.g. mouse or a human, preferably African or Asian, suffering from cancer such as colorectal, cervical, gastric cancer, lung, ovarian, pancreatic cancer or malignant glioma. The present sequence is udes in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                       Use of irinotecan to treat cancer patient by determining if patient has variant alleles of UGT1A1 gene, administering increased/decreased amounts of irinotecan based on increased/decreased levels of UGT1A1 gene product.
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tal cancer; cervical cancer; gastric cancer; lung cancer;
cancer; pancreatic cancer; malignant glioma;
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New use of irinotecan for preparation of pharmaceutical compositions for treating cancer in subject having genome with variant allele comprising
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24-MAY-2002;
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for the preparation of pharmaceutical compositions for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject having a genome with a variant allele which comprises a multidrug resistance I (MDR1) polynucleotide. A composition of the invention has cytostatic activity. The invention is useful for the preparation of pharmaceutical compositions for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject (preferably human, more preferably African or Asian) or a mouse. The present sequence is used in the exemplification of the Sequence 1531 multidrug invention resistance 1 SEQ Ā relates Ħ ĕ ç 678; 130pp; English. polynucleotide the novel use of irinotecan or its derivative

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probable ABC trans	atp-binding casset	hypothetical prote	hypothetical prote	multidrug resistan	multidrug resistan	probable ABC trans	ABC transporter-li	YOR1 protein - yea	inwardly-rectifyin	inward rectifier K	inwardly rectifyin	inward rectifier p	probable transport	sulfonylurea recep	protein Y43F8C.12

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A;Gene: GDB:MRP
A;Gene: GDB:MRP
A;Gene: GDB:MRP
A;Cross-references: GDB:136335; OMIM:158343
A;Map position: 16p13.1-16p13.1
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology C;Keywords: antibiotic resistance; ATP; duplication; nucleotide binding; P-loop; transmer; 661-844/Domain: ATP-binding cassette homology <ABC1>F;678-685/Region: nucleotide-binding motif A (P-loop)
F;788-792/Region: nucleotide-binding motif B
F;788-792/Region: nucleotide-binding motif B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Status: nucleic acid sequence not shown
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Rosidues: 'MAPTRSGTGMSRGIPATPTSPSAFRTRSSCGCLVFTSGPV',50-1531 <CO1>
A;Cross-references: UNIPARC:UPIO0001746CB; GB:L05628; NID:g1835658
A;Experimental source: small cell lung carcinoma cell line H69AR
A;Note: sequence extracted from NCBI backbone (NCBIP:119851); this sequence
R;Cole, S:P.C.; Deeley, R.G.
Science 260, 879, 1993
A;Title: Multidrug resistance-associated protein: sequence correction.
A;Reference number: A37495; MUID:93362415; PMID:8098549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: Homo sapiens (man)
C;Date: 30-Jun-1993 #sequence revision 05-Dec-1998 #text_change 19-Jan-2001
C;Date: 30-Jun-1993 #sequence revision 05-Dec-1998 #text_change 19-Jan-2001
C;Accession: A44231; A37495
R;Cole, S.P.C.; Bhardwaj, G.; Gerlach, J.H.; Mackie, J.E.; Grant, C.E.; Almquist, K.C.; Science 258, 1650-1654, 1992
A;Title: Overrexpression of a transporter gene in a multidrug-resistant human lung cance
A;Reference number: A44231; MUID:93088080; PMID:1360704
                                                                                                                                                                                                                                                                                                                                                                               F;1310-1503/Domain: ATP-binding cassette homology <ABC2>F;1327-1334/Region: nucleotide-binding motif A (P-loop)F;1450-1454/Region: nucleotide-binding motif B
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A;Note: sequence extracted from NCBI backbone (NCBIP:131929)
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A; Residues: 1-60 <CO2>
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1 MALRGECSADGSDPLWDWNVTWNTSNPDETKCEQNTVLVWVPCFYLWACFPFYFLYLSRH
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                                                    DTVDSMIPEVIKMEMGSLENVIGACIVILLATPIAAIIIPPLGLIYEFVQREYVASSRQL
                                                                                                              ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL
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                KRLESVSRSPVYSHFNETILIGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
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KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
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A;Reference number: JE0336; MUID:99032812; PMID:9813153
A;Accession: JE0336
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-1527 <UCH>
A;Residues: 1-1527 <UCH>
A;Cross-references: UNIPROT:015438; UNIPARC:UPI0000169859; GB:AF083552
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding c;Keywords: ATP
C;Keywords: ATP
C;Keywords: ATP
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JE0336
canalicular multispecific organic anion transporter - human canalicular multispecific organic anion transporter - human cispecies: Homo sapiens (man)
C;Date: 05-Feb-1999 #sequence_revision 05-Feb-1999 #text_chang C;Accession: JE0336
C;Accession: JE0336
R;Uchiumi, T.; Hinoshita, E.; Haga, S.; Nakamura, T.; Tanaka, Biochem. Biophys. Res. Commun. 252, 103-110, 1998
Biochem. Biophys. Res. Commun. 252, 103-110, 1998
A;Title: Isolation of a novel human canalicular multispecific
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                                                                                                                                                                                                                                                                        T.; Toh, S.; Furukawa,
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유 성 망 **& B 8** 뫄 8 B Ś 멍 S Query Match Best Local Local Similarity 56.6 nes 871; Conservative 187 188 127 128 67 89 00 LSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYROPLEGSDLWSLNKE R-KPSFLKALLATFGSSFLISACFKLIQDLLSFINPQLLSILIRFISNPMGPSWWGFLVA EWNDSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPDWQGYFYT DTSEQVVPVLVKWMKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEALIVKSPQK SGELGSKFWDSNLSVHTENPDLTPCFQNSLLAWVPCIYLWVALPCYLLYLRHHCRGYIIL SADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRHDRGYIQM 45.3%; 261; Score 4484.5; DB 2; Pred. No. 4.6e-296; 1; Mismatches 372; 2 Indels Length 35; Gaps 127 246 126 66 9

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                                                                 IIPQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLS
                                                                                                                              DLSLHVHGGEKVGIVGRTGAGKSSMTLCLFRILEAAKGEIRIDGLNVADIGLHDVRSQLT
                                                                                                                                                       HINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKIT
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                                        I I PODPILF SGTLRMNLD PFGS Y SEEDIWWALELSHLHTFVSSQPAGLDFQCSEGGENLS
                                                                                                                                                                                                             SDLESNÍVAVERVKEYSKTETEAÞWVVEGSRÞÞEGWÞÞRGEVEFRNYSVRYRÞGLDLVLR
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multidrug resistance protein, canalicular - human C,Species: Homo sapiens (man)
C,Date: 10-Sep-1999 #sequence_revision 10-Sep-1999
C,Accession: $71841; $71840
R,Koenig, J., Keppler, D.
submitted to the EMBL Data Library, August 1996
A,Reference number: $71841
A,Accession: $71841
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C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology C;Keywords: ATP; glycoprotein; nucleotide binding; P-loop; transmembrane protein F;654-837/Domain: ATP-binding cassette homology <ABC1>
F;671-678/Region: nucleotide-binding motif A (P-loop)
F;1317-1510/Domain: ATP-binding cassette homology <ABC2>
F;1334-1341/Region: nucleotide-binding motif A (P-loop)
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A;Status: nucleic acid sequence not shown
A;Status: nucleic acid sequence not shown
A;Molecule type: mRNA
A;Residues: 1415-1429,'VP',1432-1455,'E',1457-1545
A;Cross-references: UNIPARC:UPI00001746CE; EMBL:X96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Residues: 1-1545 <KOE>
A;Cross-references: UNIPARC:UPI00001746CD; EMBL:X96395; NID:g1507819; PIDN:CAA65259.1;
A;Cross-references: UNIPARC:UPI00001746CD; EMBL:X96395; NID:g1507819; PIDN:CAA65259.1;
A;Cross-references: UNIPARC:UPI00001746CD; EMBL:X96395; NID:g1507819; PIDN:CAA65259.1;
A;Cross-reference number: 371839; MUID:96279006; PMID:8662992
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A;Cross-references: GDB:6089489; OMIM:601107
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FVSPQLLKLLISFASDRDTYLWIGYLCAILLFTAALIQSFCLQCYFQLCFKLGVKVRTAI
                                                                                                                                       PAQPKESSKVDANEEVEALIVKSPQKEWNPS--LFKVLYKTFGPYFLMSFFFFKAIHDLMM
                                                                                                                                                                                           PLILEDVWEVDEEMKTKTLVSKFETHMKRELQKARRALQRRQEKSSQQNSGARLPGLNKN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            YKSRTKRSSTTKLYLAK-QVFVGFLL-ILAAIELALVLTEDSGQATVPAVRYTNPSLY-L
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LEKFCN-----STFWNSSFLDSPEADLPLCFEQTVLVWIPLGFLWLLAPWQLLHV 51
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                                                                                                                                                                                                                                         PLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTRK------QPVKVVVSSKD
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                                                                                                                                                                                                                                                                                          FFISYGFQILILIFSAFSEN-----NESSNNPSSIASFLSSITYSWYDSIILKGYKR
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                                                                                                 EDVEKKKKKKSGTKKDVPKSWLMKALFKTFYMVLLKSFLLKLVNDIFT
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                                                                                                                                                                                                                                                                                                                                                                                                                                 GIISTLYMICMATPVFTIIVIFLGIIYVSVQMFYVSTSRQLRRLDSVTRSPIYSHFSETV 1167
                                                                                                                                                                                                                                                                                                                                                                                                                                                        NVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFNETL 1159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CNHVSALASNYWLSLWT-DDPIVNGTQ---EHTKVRLSVYGALGISQGIAVFGYSMAVSI 1039
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                                                            WTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAA 1459
                                                                                                                                                                                             DKRPPPDMPSKGKIQFNNYQVRYRPELDLVLRGITCDIGSMEKIGVVGRTGAGKSSLTNC
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  VDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRG
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                                                                                                                                                 SLNK----EDTSEQVVPVLVKN------WKKECAKTRKQPVKVVYS-SKDPAQPKESSK 290
                                                                                                                                                                                                                                                                        VQHSRQWCVRKNSWELSLFWILSVLCGVFQFQT-LIRALLKDSKSNMAYSYLFFVSYGFQ
                                                                                                                   DIDEGFKTRSVTSKFEAAMTKDLQKARQAFQRRLQKSQRKFEATLHGLNKKQSQSQDVLV 286
                                                                                                                                                                                                                                                                                                                                                                                                                                   FCNS----TFWDLSLL-ESPEADLPLCFEQTVLVWIPLGFLWLLAPWQLYSVYRSRTKRS
  KFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVI
                                      LEEAKKKSEKTTKDYPKSW---LIKSLFKTFHVVILKSFILKLIHDLLVFLNPQLLKLLI
                                                                            VDANEEVEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLI 350
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-----DSTQTPSVTASFLSSTTFSWYDRTVLKGYKHPLTLEDVW

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A;Cross-references: UNIPROT:Q63120; UNIPARC:UPI00012F578; EMBL:X96393; NID:g1292881; PIC;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology C;Roywords: ATP; glycoprotein; nucleotide binding; P-loop; transmembrane protein F;100-124/Domain: transmembrane #status predicted cTM01>F;107-151/Domain: transmembrane #status predicted cTM02>F;107-151/Domain: transmembrane #status predicted cTM03>F;305-329/Domain: transmembrane #status predicted cTM06>F;354-381/Domain: transmembrane #status predicted cTM06>F;456-476/Domain: transmembrane #status predicted cTM08>F;354-381/Domain: transmembrane #status predicted cTM09>F;456-476/Domain: transmembrane #status predicted cTM09>F;574-602/Domain: transmembrane #status predicted cTM09>F;574-602/Domain: transmembrane #status predicted cTM09>F;574-602/Domain: transmembrane #status predicted cTM09>F;667-674/Region: nucleotide-binding motif A (P-loop)F;108-1046/Domain: transmembrane #status predicted cTM12>F;1104-1132/Domain: transmembrane #status predicted cTM12>F;1104-1132/Domain: transmembrane #status predicted cTM12>F;1104-1132/Domain: transmembrane #status predicted cTM12>F;1104-1132/Domain: transmembrane #status predicted cTM12>F;1330-1337/Region: nucleotide-binding cassette homology cABC2>F;1330-1337/Region: nucleotide-binding motif A (P-loop)F;6,1007,1010,1011/Binding site: carbohydrate (Asn) (covalent) #status predicted
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C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: $71839 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
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C;Accession: $71839 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
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C;Species: Rattus norvegicus (Norway rat)
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Score 3507.5; DB 1; Length Pred. No. 1.3e-229; Mismatches 471; Indels
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                               VVGFVLSNALNITQTLNWLVRMTSEAETNIVAVERISEYINVENEAPW-VTDKRPPADWP
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Rianonymous, The C. elegans Sequencing Consortium.

Science 282, 2012-2018, 1998

A;Title: Genome sequence of the nematode C. elegans: a platform for investigating biolo A;Title: Genome sequence of the nematode C. elegans: a platform for investigating biolo A;Title: see number: A/5000; MUID:99069613; PMID:9951916

A;Note: see websites genome.wustl.edu/gsc/C_elegans/ and www.sanger.ac.uk/Projects/C_elegans/ A;Note: published errata appeared in Science 283, 35, 1999; Science 283, 2103, 1999; an
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A;Status: preliminary
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C;Species: Caenorhabditis elegans
C;Date: 10.May-2001 #sequence_revision 10-May-2001 #text_change
                                               LNILPMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWAR
                                                                                          SSTVGEIVNIMSVDAQREMDIATYINMIWSAPIQVIIALYLIWINIGPSVLAGVAVMVIM
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GKTIGAIVNIMSVDIQKIQDMAPTIMIFWSAPIQIFISIYFIWKFIGVAALAGIVVIIIA
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                                                                                                                                                                                                                                                                                                                                                                                                                 KAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARK 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDT
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Pred. No. 9.3e-215;
9; Mismatches 435;
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RESULT 6
T21219
fypothetical protein F21G4.2 - Caenorhabditis elegans
hypothetical protein F21G4.2 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #t.
C;Accession: T21219; T24002
R,Mortimore, B.
R,Mortimore, B.
submitted to the EMBL Data Library, October 1996
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VSLARAVYQNPDIILLDDPLSAVDSHVGKHIFENVISSSTGCLASKTRVLVTHGLTYLKH
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                                                                                                                       PSDLL-QQRGLFYSMAKDAGLV 1531
                                                                                                                                                                LVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGBIQEYGA
                                                                                                                                                                                              NAHLKPFVKSLQDGLEHKISEGGENLRFAGSKSQKFQLNFSVGQRQLICLARALLRKTKV
                                                                                                                                                                                                                                                                                                SSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRIN 1344
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                                                                                                                                                                                                                                                                                    KSWPEKGEISIKNFSVRYRPGLDLVLHGISAHIAPSEKVGIVGRTGAGKSSLTLALFRII 1292
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A;Reference number: Z19392
A;Accession: T2129
A;Status: preliminary; translated from GB/EMBI
A;Molecule type: DNA
A;Residues: 1-1573 <WIL>
A;Cross-references: UNIPROT:Q93552; UNIPARC:UI
A;Experimental source: clone F21G4
R;Experimental source: clone F21G4
R;Experimental source: clone F21G4
R;Experimental source: clone F21G4
R;Experimental source: clone F21G4
R;Reference number: Z19828
A;Accession: T24002
A;Reference number: Z19828
A;Accession: T24002
A;Scatus: preliminary; translated from GB/EMBI
A;Accession: T24002
A;Scatus: preliminary; translated from GB/EMBI
A;Accession: T24002
A;Geneticule type: DNA
A;Molecule type: DNA
A;Residues: 1-1573 <WI2>
A;Cross-references: UNIPARC:UPI00000823F7; EMI
A;Experimental source: clone R07B1
C;Genetics: A;Gene: CESP:F21G4.2
A;Introns: 21/3; 122/3; 197/3; 276/1; 654/1; 9
C;Superfamily: human multidrug resistance prol
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                                                                                                                      MLUTASPELVALSTEATETYIDPKNVLTPEIAFVSLTLENQLKSEMSQVAELITQTVQVV
                                                                                                                                                                                                                                                                             QVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGT
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                                                         VSLKRIFISHEELEPDSIERRPVKDGGGTNSITVRNATFTW--ARSDP-PTLNGITFS
                                                                                                                                                   FTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILPMVISSIVQAS
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VSNRRLKEFLVSEELNVEAIDHR-ARD--NNDVICLKEACLSWESAEHOPVPTLTNISFS
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RESULT 7

742216

Reference number: Z22081; MUID:98279126; PMID:9614210

RACCESSion: T42216

R,Title: Hepatic expression of multidrug resistance-associated protein-like A;Accession: T4216
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TRQLTGTERVETGRVKMDTYXKYFGAMGMSIAVLFVLGMTTSTIFSMGRNLMLTDMSNDN
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A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 1-1502 <HIR>
A;Residues: 1-1502 <HIR>
A;Cross-references: UNIPROT:088269; UNIPARC:UPI000012F57A; EMBL:AB010466; NID:g3242457;
A;Experimental source: strain Sprague-Dawley; liver
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology
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LQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKA
                                                                                                     SAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQEL
                                                                                                                                         LAAFLCLEEVDPNGMVLSPSR-CSSKDRISIHNGTFAWSQESPPCLHGINLTVPQGCLLA
                                                                                                                                                                                                                                                            LRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPTLNGITFSIPEGALVA
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                                        LHRNGALVGLLDGARQPAGEGEGEAHAAATSDDLGGFSGGGTPTRRPE
                                                               LARDGAFAEFLRTYASTEGEODAEENGVT----
                                                                                         AALDAHVSQEVFKQVIGPSGLLQGTTRILVTHTLHVLPQADQILVLANGTIAEMGSYQDL
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Pred. No. 2.1e-208;
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A; Map position: 4R
C; Function:
A; Description: requ
C; Superfamily: human
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$51863

Cadmium resistance protein YCF1 - yeast (Saccharomyces cerevisiae)

N;Alternate names: protein YD9302.11c; protein YDR135c

C;Species: Saccharomyces cerevisiae

C;Date: 10-Sep-1999 #sequence revision 10-Sep-1999 #text_change 09-Jul-2004

C;Accession: $51863; A$5352; $50233

R;Oliver, K.; Harris, D.

submitted to the EMBL Data Library, February 1995

A;Reference number: $51863

A;Accession: $51863

A;Accession: $51863

A;Accession: $51863
                                                                                                                                                                                                                                                                                                                                                                    A;Molecule type: DNA
A;Residues: 1-1515 < CUI>
A;Residues: 1-1615 < CUI>
A;Cross references: UNIPROT:P39109; UNIPARC:UPI000013A67B; EMBL:Z48179;
A;Cross references: UNIPROT:P39109; UNIPARC:UPI000013A67B; EMBL:Z48179;
A;Szczypka, M.S.; Wemmie, J.A.; Moye-Rowley, W.S.; Thiele, D.J.
J. Biol. Chem. 269, 22853-22857, 1994
A;Title: A yeast metal resistance protein similar to human cystic fibros
A;Reference number: A55352; MUID:94357936; PMID:7521334
                                                                                                                             A;Gene: SGD:YCF1; MIPS:YDR135c
A;Cross-references: SGD:S0002542; MIPS:YDR135c
                                                                                                                                                                                                                 A,Status: nucleic acid sequence not shown
A,Molecule type: DM,
A;Residues: 1-679,NA,
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required for cadmium resistance human multidrug resistance protein cMOAT2; ATP-binding cassette homology
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            LFRVKGFATVHGSVAYVSQVPWIMNGTVKENILFGHRYDAEFYEKTIKACALTIDLAILM 739
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C;Keywords: ATP; nucleotide binding; P-loop; transmembrane pro F;287-308/Domain: transmembrane #status predicted <TM1> F;345-366/Domain: transmembrane #status predicted <TM2> F;421-442/Domain: transmembrane #status predicted <TM3> F;446-467/Domain: transmembrane #status predicted <TM4> F;446-467/Domain: transmembrane #status predicted <TM5> F;446-467/Domain: transmembrane #status predicted <TM5> F;546-55/Domain: transmembrane #status predicted <TM6> F;646-829/Domain: ATP-binding cassette homology <ABC1> F;646-829/Domain: transmembrane #status predicted <TM7> F;995-1016/Domain: transmembrane #status predicted <TM9> F;1092-1113/Domain: transmembrane #status predicted <TM10> F;1092-1113/Domain: transmembrane #status predicted <TM10> F;1179-1200/Domain: transmembrane #status predicted <TM10> F;1208-1483/Domain: transmembrane #status predicted <TM12> F;1289-1483/Domain: transmembrane #status predicted <TM12> F;1289-1483/Domain: transmembrane #status predicted <TM12> F;1389-1483/Domain: transmembrane #status predicted <TM12> F;1389-1
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Pred. No. 4.5e-184;
5; Mismatches 495;
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RESULT 9
T20434
hypothetical protein E03G2.2 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_
C;Accession: T20434
R;MCMurray, A.
submitted to the EMBL Data Library, November 1995
A;Reference number: Z19275
A;Accession: T20434
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-1398 <WILD
A;Cross-references: UNIFROT:Q19048; UNIPARC:UPI000007736/
A;Experimental source: clone E03G2
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                      UNIPARC: UPI0000077364;
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                      EMBL: Z68113;
                                                                                                                                                                      09-Jul-2004
                      PIDN:CAA92148
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   AKKEETWKLMEADKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFMCNHVS-ALASNYWLS
                                                                                                                                                      EENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSYSGDISRHHNSTAELQKAE
                                                                                                                                                                                                                        NKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDA
                                                                                                                                                                                                                                                                  EGHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SQTIGVAVWAGIVVMISIVPINICVSMITKRWQLRLMKYKDERIRLINEVLNGIKVVKLS
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518 369

429

-GEENSDILPGSIASGSRMSRLSR-LSK-----ISRKKSKSSIVEK--

804 938 761 878 728 818 999 758 809 869 548 638 489 578

1055

198

BTRYESSG

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C;Genetics:
A;Gene: CESP:E03G2.2
A;Map position: X
A;Introns: 73/3; 113/3; 176/1; 216/1; 258/2; 384/3; 470/3; 549/1; 644/3; 757/3;
A;Introns: 73/3; 113/3; 176/1; 216/1; 258/2; 384/3; 470/3; 549/1; 644/3; 757/3;
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette ?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 27.6%; Score 2732; DB 2; Length 1398; Best Local Similarity 41.1%; Pred. No. 6.4e-177; Matches 591; Conservative 287; Mismatches 472; Indels 88
QFANPTFLNYLILFIETPNAPLINGIGLAVGLFLAGQIKSLFMNTYFIAMTRVGAKIQTM
                                                                                                                MFSGPQILKLLIKFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTA
                                                                                                                                                                                                  VAYLTYFPLVVAEFVLHFVSDPFPM-----
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                                                                                                                                                                         KAPLLGTFNNYGAVNLDDKDRVIVQ-----
                                                                                                                                                                                                                                                                        İSLGYERTLVADDVFEMDSQMDQEYLKARWKTEWLKQTEKAREKQVKLDDKRERARTGSE
                                                                                                                                                                                                                                                                                                                      IVRGYRQPLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKV------VYSS
                                                                                                                                                                         - PSVIVTĹWQIMKWEILGGSFIKFLSDLL
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                    458
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Qy 115 ITTLLATFLIQLERRKGVQSSGIMLTFWLVA-LVCALAILRSKIMTALKEDAQVDLFRDI 173	Query Match 25.7%; Score 2548; DB 2; Length 1478; Best Local Similarity 38.7%; Pred. No. 2.3e-164; Matches 560; Conservative 285; Mismatches 509; Indels 92; Gaps 21;	A;Gene: SPDB:SPAC3F10.11c A;Map position: 1 C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology C;Keywords: ATP; transmembrane protein	A;Residues: 1043-1286,'L',1288-1300,'Y',1302,'H',1304-1310,'H',1312-1466,'V',1468-1478 A;Cross-references: UNIARC:UPI000006C641; EMBL:D89231; NID:g1749669; PIDN:BAA13892.1; A;Experimental source: strain PR745 C:Genetics:	A;Reference number: Z17323; MVID:98162722; PMID:9501991 A;Accession: T43244 A;Status: preliminary; translated from GB/EMBL/DDBJ A:Molecule type: mANA	A,Experimental source: strain 972h(-); cosmid c3F10 R;Yoshioka, S.; Kato, K.; Nakai, K.; Okayama, H.; Nojima, H. DNA Res. 4, 363-369, 1997 A;Title: Identification of open reading frames in Schizosaccharomyces pombe cDNAs.	A;Status: translated from GB/EMBL/DDBJ A;Molecule type: DNA A;Molecule type: DNA A;Residues: 1-1478 cMUR> A;Residues: 1-1478 cMUR> A;Cross-references: UNIPROT:Q10185; UNIPARC:UPI000013A189; EMBL:Z69369; PIDN:CAA93309.1;	R;Murphy, L.; Harris, D.; Barrell, B.G.; Rajandream, M.A.; Walsh, S.V. submitted to the EMBL Data Library, February 1996 A;Reference number: Z21807 A;Accession: T38712	N;Alternate names: metal resistance protein homolog C;Species: Schizosaccharomyces pombe C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004 C;Accession: T38712; T43244	RESULT 10 ABC transporter SPAC3F10.11c [similarity] - fission veast (Schizosaccharomyces pombe)	Qy 1475 QFEDCTVLTIAHRLHTIMDYTRVIVLDKGEIQEYGAPSDLLQOR-GLFYSMAKDAGLV 1531	Qy 1415 LPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRT 1474	Qy 1355 GINIAKIGLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSA 1414	Qy 1295 FRNYCLRYREDLDFYLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIID 1354	Qy 1235 SYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVE 1294	Qy 1176 HQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVISRHS-LSAGLVGLSV 1234 ::  ::	Qy 1116 AIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFI 1175	:  : : : :   ::   :::    : : : : : :   : : : :   : : : :   :   : : : :   :   : : : :   :   : : : : :   :   : : : :   :
B &	S B &		g Qy	g Q	Qy da	8	Qy	Qy	Qy	Qy	Qy	Qγ	Db Qy	Db Qy	Db Qy	Qy VQ	g S
1113 DMEDTFISENDIRVDTNHRIWELYFSSNRWQAIRVEAIGALVVFSSAFFGVLSAVRGNPN 1172		1049 HVDLLHSILRSPMSFFERTDSGNLVNRFSKELDTVDSMIPEVIKMEMGSLENVIGACIVI 1108     :: ::  :        ::      ::	990 LASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMAVSI-GGILASRCL 1048 :	933 ELQXABAKKEETMKLMEADKAQTGQVKLSYYMDYMXAIGLFISFLSIFLFMCNHVSA- 989	AEENGVTGV9GPGKEAKQMENGMLVTDSAGKQLQRQLSSSSYSGDISRHHNSTA	NKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLAR-DGAFAEFLRTYASTEQEQD ::         :   :   :               :	759 TEIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLK 818   :    ::      : :        :	699 EGHVAIKGSVAYVÞQQAWIQNDSLRENILFGCQLEEÞYYRSVIQACALLÞDLEILÞSGDR 758	643 SITVRNATFTWARSDPPTLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKV 698 : :     ;   ;   ;	583 FVSLALENILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTN 642 	525 KDKVLAIRQ-EELKYLKKSAYLSAVGTFTWVCTPFLVALCTFAVYVTI-DENNILDAQTA 582 	465 SVLAGVAVMVLMVÞVNAVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAF 524 	405 RKALVITNSARKSSTYGEIVNIMSVDAQRFMDLATYINMIWSAPLQVILALYLIMINIGP 464   :  :::  :  :  :            : :        ::       ::  352 RKSLRLSSAARQSRSYGDIVNYMSVDTQKYCDLTMFLFVIVSGPFQIVLALTNLYHLYGY 411	349 LIKFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVY 404 :-	289 SKVDANEEVEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKL 348	229 VRGYROPLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTRKOPVKVVYSSKDPAQPKES	1/4 IFTYTESHIDIQUANSCESUKSELFSELIHDERFCEESSKSELSKLIEMFLIESEL 220 153 TFFCSLVCLLAEIYVPPANRVMYPDDAAELBETGLRPSRFTYANIFSRISFGMLSPLM 210

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A;Status: preliminary
A;Nolecule type: DNA
A;Residues: 1-1623 <STO>
A;Cross-references: UNIPARC:UPI000009F2D5; GB:AE002093; NID:g3132479; PIDN:AAC162
C;Genetics:
A;Gene: At2g34660; T29F13.13
A;Gene: At2g34660; T29F13.13
A;Map position: 2
A;Introns: 110/3; 170/2; 183/3; 236/1; 274/2; 301/2; 309/3; 328/3; 350/3; 375/3;
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette hc
C;Superfamily: human: ATP-binding cassette homology <ABC>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Status: translated from GB/EMBL/DDBJ
A,Molecule type: DNA
A;Residues: 1-1623 <ROUD-
A;Cross-references: UNIPROT:O64590; UNIPARC:UPI000009F2D5; EMBL:AC003096; NID:g3132469;
A;Cross-references: UNIPROT:O64590; UNIPARC:UPI000009F2D5; EMBL:AC003096; NID:g3132469;
A;Cross-references: UNIPROT:O64590; UNIPARC:UPI000009F2D5; EMBL:AC003096; NID:g3132469;
A;Exin, X.; Kaul, S.; Rounsley, S. Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.;
R;Lin, X.; Kaul, S.; Rounsley, S. Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.;
M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L.
euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.;
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                                                          HKVERFCLRSRLYNYFLALLAAYATAEPLFRL---IMGISVLDFDGPGLPPF------
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ------GEPAISIRNGYFSWDSKGDRPTLSNINLDVP
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DSISRSPVYAQFGEALNGLSTIRAYKAYDRMADINGRSMDNNIRFTLVNMGANRWLGIRL

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R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.

Nature 408, 816-820, 2000

A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C. C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, Y.A.; Liuros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.

A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.

A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.

A;Accession: D86428
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B86428

B86428

Jacob Seconjugate transporting ATPase (AtMRP1) - Arabidopsis thaliana (House-ear cress)

C;Species: Arabidopsis thaliana (House-ear cress)

C;Date: O2-Mar-2001 #sequence_revision O2-Mar-2001 #text_change O9-Jul-2004

C;Accession: D86428

C;Accession: D86428
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A;Residues: 1-1622 <STO>
A;Cross-references: UNIPROT:Q9C8G9; UNIPARC:UPI000009CF47; GB:AE005172; NID:g11055814;
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                                                                                                                                                                        WACFPF-YFLYLSRHDRGYIQMTPLNKTKTALG-----FLLWIVCWADLFYSFW
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                                                                                               SALVMTVVETKTYIHELRWYVRFAVIYALVGDMVLLNLVLSVK-EYYGSFKLYLYISEVA
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                     VQVAFGTLLFVYFPNLDPYPGYTPVGTENSEDYEYEELPGGENICPERHANLFDSIFFSW
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                                                                                                                                                                                                            PIAAIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQE 1172
                                                                                                                                                                                                                                                                                                                                                 WLSEWTDSGTPKTHGPLFYN----IVYALLSFGQVSVTLINSYWLIMSSLYAAKKMHDAM 991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EIGERGVNISGGQXQRVSMARAVYSNSDVCILDDPLSALDAHVGQQVFEKCI--KRELGQ 789
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                                       STMGLLLSYALSITSSLTAVLKLASLAENSLNSVERVGNYIEIPSEAPLVIENNRPPPGW 1231
                                                                           GLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSW 1287
                                                                                                                                                                                                                                                                                                                                                                                                                            ETKNSKEGNSVLVKREERETGVVSWKVLERYQNALGGAWVVMMLVICYVLTQVFRVSSST 935
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 PQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESA 1347
                                                                                                                                                                                          TLSLWAIMPLLVVFYGAYLYYQNTSREIKRMDSTTRSPVYAQFGEALNGLSSIRAYKAYD 1111
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                                                                                                                                                                                                                                                                                                                                                                                                                                                -AEAKKEETWKLMEADKAQTGQVKLSVYWDYMKAI-GLFISFLSIFLFMCNHVSALASNY 994
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -PK-----PWLLRALNNSLGGRFWWGGFWKIGNDCSQFVGP 320
                                                                                                                                                    RFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVI-----SRHSLSÅ 1227
                                                                                                                                                                                                                                                                      LGSILRAPMVFFQTNPLGRIINRFAKDMGDIDRTVAVFVNMFMGSIAQLLSTVILIGIVS 1051
                                                                                                                   RMAEINGRSMDNNIRFTLVNMAANRWLGIRLEVLGGLMVWLTASLAVMQNGKAANQQAYA 1171
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probable ABC transporter [imported] - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004
C;Accession: B86428
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liu, S.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLFYSMAKD 1527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDL 1467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RTALYLFISSRCSQALFGILLLIYIPEL--DPYPGYHIVNNEPLDNVEYDALRGGEHICP
                                                                                                                                                                                                         QVDLFRDIT---FYVYFSLLLIQLVLSCFSDRSPLFSETIHDP------
                                                                                                                                                                                                                                              EVASLMVEAFAWFSMLVLIGLETKQYVKEFRWYVRFGVLYVLVADAVLLDLVLPLKNSIN 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALRGECS--ADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVP-----CFY-LWACEP
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                                                                                ERHASIFSRIYFGWITPLMQLGYRKPITEKDVWQLDKWDQTETLIKRFQRCWTEESRR--
                                                                                                                      ESSASFLSRITFWWITGLIVRGYRQPLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTR
                                                                                                                                                                                                                                                                                                                                   -----HNTKAQİYVLRKKYYNCVİĞ-İLACYCVVEPVLRLVMGİSLEDMDEETDEPPE
                                                                                                                                                                                                                                                                                                                                                                           FYFLYLSRHDRGYIQMTPLNKTKTALGFLLWIVCWAD-----LFYSFWERSRGIFLAPV
                                                                                                                                                                                                                                                                                                                                                                                                                    ALNWYCKPVADGF-----WEKAVDGAFGAYTPCAIDSLVMLVSHFVLLGLCFYRIWIIF-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 2326; DB 2; Length 1495;
Pred. No. 3e-149;
.4; Mismatches 566; Indels 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.
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                                                                                                                                                                                                                                                                                                         GVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVI
                   MLNALFRIVEVEKGRIMIDDCDVÄKFGLTDVRRVLSIIPQSPVLFSGTVRFNIDPFSEHN
                                         LTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYS
                                                                                                                        WQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSS
                                                                                                                                                                                 GLSSIRAYKAYDRMAKINGKSMDNNIRFTLANTSSNRWLTIRLETLGGVMIWLTATFAVL
                                                                                                                                                                                                                                                                                                                                                     SLHAARRLHDAMLSSILRAPMLFFHTNPTGRVINRFSKDIGDIDRNVANLMNMFMNQLWQ 1037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HVSALASNYWLSLWTDDPIVNGTQEHTK----VRLSVYGALGISQGIAVFGYSMAVSIG 1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HHNSTAELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKAI-GLFISFLSIFLFMCN
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                                                                                                    DI I ENNRPVCGWPSGGS I KFEDVHLRYRPGLPPVLHGLTFFVSPSEKVGVVGRTGAGKSS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --QGKRRRS-VLIKQEERETGIISWNVLMRYKEAVGGLWVVMILLACYLAT
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R;Barlow, K.
submitted to the EMBL Data Library,
... Parance number: Z20361
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T27408
T27408
hypothetical protein Y75B8A.26 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T27408
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A;Molecule type: DNA
A;Residues: 1-1144 <WIL>
A;Residues: 1-1144 <WIL>
A;Cross-references: UNIPROT:Q9XW61; UNIPARC:UPI000007AA2A; EMBL:AL033514; NID:e1343251;
A;Experimental source: Clone Y75B8A
A;Experimental source: Clone Y75B8A
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:Introns: 63/3; 120/3; 222/3; 271/3; 372/3; 451/1; 636/1; 687/3; 778/3;
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YLLWINIGPSVIAGVAVMVLMVPVNAVMAKTKTYQVAHMKSKDNRIKLMNBILNGIKVI
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                                                                                                                                                                                                                                                                                                                                                                                                                                               NNILDAQTAFVSLALFNILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELEPDSIERR
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                                                                                                                                                                                                                  LPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDDPLSAVDAHVGKHIFENVIG
                                                                                                                                                                                                                                                                                             AEMDKVEGHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEI
                                                                                                                                                                                                                                                                                                                                                   EVALG---NAIVFKNASLNWKGPQNPPVLKDLSATIKPGQLIAIVGSVGGGKSSLLSAVL
                                                                                                                                                                                                                                                                                                                                                                               PVKDGGGTNSITVRNATFTW-ARSDPPTLNGITFSIPEGALVAVVGQVGCGKSSLLSALL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDE 1455
                                                                                                                                                                                                                                                                                                                                                                                                                               NG-LTPSVAFVALTIFNQLRQPMRMVANLINTLVQARVSNKRLRQFLNDEEME----RKT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KLYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVCTPFLVALCTFAVYV--TIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTVLSNAILHKILRLSPSARSNRTAGEILNHAAVDIEIIVHSVPYLQNMWSVPFQVTLAM
ELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFMCNHVSALAS
                                      SDEDVADEEAESSEASVTPPVPVLENG----DNGAIEKSSQIDRTNSHFSEKSR-----
                                                                          EQEQDAEENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSGDISRHHNSTA
                                                                                                                    PDGLLRSKTRVLVTHNLQYTKYVDTIYVIEDGQIVQHGSFEDIAYVDGPFGR-LWSECEN
                                                                                                                                                      PKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAFAEFLRTYAST
                                                                                                                                                                                              FQQGENTMVGENGITLSGGQKARISLARAVYQDKDIYLLDDPLSAVDAHVGRALFDKVIG
                                                                                                                                                                                                                                                                       DEMVLLDGRVKVGGSIAYVPQHSWIFNKTIKENILFGNELSNYFYDQVVGSCQLKTDFRH
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                                                                                    A; Nolecule type: DNA
A; Residues: 1-1559 <GOF>
A; Cross-references: UNIPARC: UPI0000126A9C;
A; Experimental source: strain $288C
A; Experimental source; Damak, F.; Camonis, J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 15
S64757
                Gene 77, 21-30, 1989

A;Title: The C-terminal part of a gene partially homologous to CDC25

A;Reference number: PS0041; MUID:89306677; PMID:2545538

A;Accession: PS0041
                                                                                                                                                                                                                              A;Cross-references: UNIPROT:P14772;
A;Experimental source: strain S288C
R;Goffeau, A.; Purnelle, B.
submitted to the Protein Sequence Da
                                                                                                                                                                                                                                                                                                                                                                                   probable membrane protein YIL015w - yeast (Saccharomyces cerevisiae)
N;Alternate names: hypothetical protein A255; hypothetical protein L1313
C;Species: Saccharomyces cerevisiae
C;Date: 10-Sep-1999 #sequence revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: S64757; S64763; PS0041; S69391; S70560
R;Miosga, T.; Zimmermann, F.K.
submitted to the Protein Sequence Database, May 1996
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A; Accession: S64757
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                                                                                                                                                                                                              A; Reference number: S64761
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A; Residues: 1-1559 < MIO>
  A;Molecule type: DNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PFNQYSDDQIWNCLEICQLKQFAQEDDKTLDRYIAEGGKNMSVGERQLLCLCRALLRGAR
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                                                                                                                                                                                                                                                                                             UNIPARC: UPI0000126A9C;
                                                                                                ٦.;
                                                                                                                                      EMBL: 273120;
                                                                                                                                                                                                                                    Мау
                                                                                                Garreau, H.; Jacquet,
                                                                                                                                      NID:g1360184;
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1000

1120

1329

880

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1270

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1212 760

3

PIDN:CAA97460.

PII

gene

suppresses

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F;334-350/Domain: transmembrane #status predicted <TM4>
F;421-437/Domain: transmembrane #status predicted <TM4>
F;421-437/Domain: transmembrane #status predicted <TM5>
F;526-542/Domain: transmembrane #status predicted <TM7>
F;550-566/Domain: transmembrane #status predicted <TM7>
F;654-847/Domain: ATP-binding cassette homology <ABC1>
F;672-679/Region: nucleotide-binding motif A (P-loop)
F;974-990/Domain: transmembrane #status predicted <TM8>
F;1017-1033/Domain: transmembrane #status predicted <TM9>
F;1018-1134/Domain: transmembrane #status predicted <TM11>
F;12112-1228/Domain: transmembrane #status predicted <TM11>
F;12112-1228/Domain: transmembrane #status predicted <TM12>
F;1319-1529/Domain: transmembrane #status predicted <TM12>
F;1319-1529/Domain: transmembrane #status predicted <TM12>
F;1318-134/Region: nucleotide-binding motif A (P-loop)
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A;Cross-references: UNIPARC:UPI00001746CF
A;Cross-references: UNIPARC:UPI00001746CF
A;Cross-references: UNIPARC:UPI00001746CF
A;Dots: the authors translated the codon CAG for residue 248 as His
R;Purnelle, B.; Goffeau, A.
R;Purnelle, B.; Goffeau, A.
Brill 1996
A;Description: The sequence of 32 kb on the left arm of yeast chromosome XII reveals:
mily and a new ABC transporter homologous to the human multidrug resistance protein.
A;Reference number: S69380
A;Accession: S69391
A;Molecule type: DNA
A;Residues: 1-1559 <PUR>
A;Residues: 1-1559 <PUR>
A;Cross-references: UNIPARC:UPI0000126A9C; EMBL:X97560; NID:g1297003; PIDN:CAA66162.1
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Yeast 12, 693-708, 1996
A;Title: Sequence analysis of the CEN12 region of Saccharomyces e conductance regulator protein CFTR.

A;Reference number: S70557; MUID:96405918; PMID:8810043
A;Status: nucleic acid sequence not shown; translation not shown
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Gene: SGD: BPT1; MIPS: YLL015w
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Best Local Similarity
Matches 574; Conser
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SISKEFKANWELEKWLNRN-----SLWRAIWKSFGRTISVAMLYETTSDLLSVVQPQF
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                                                         KESSKVDANEEVEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQI 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HLTNVCFQSTLIICELALVSQSSDRVYPFILK-KALYLNLLF-----NLGISLPTQYLAY 132
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                                                                                                                                                                                                                                          -LFNSVAIFIY-DLCIFEPI----NELSEYYKKNGWYP-----PVHVLSYITFIWMNKL
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                                                                                                                      NKKIKDPNQLPLPPVDLNIK-
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Pred. No. 4.4e-147;
2; Mismatches 541; Indels 227;
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                                                             EFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIII 1353
                                                                                                                                                                                VENMELVVIYIYYQTEYIVLSRELKRLISISYSPIMSLMSESLNGYSIIDAYDHFERFIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                 IIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFNBTLLGVSVIRAFEEQERFIH 1176
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                            EFKNYSTKYRENLDPVLNNINVKIEPCEKVGIVGRTGAGKSTLSLALFRILEPTEGKIII
                                                                                                                                                                                                                                                                       LNYEKIQYNVDFVFNFRSTNRWLSVRLQTIGATIVLATAILALATMNTKRQLSSGMVGLL
                                                                                                                                                                                                                                                                                                                 QSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVI---SRHSLSAGLVGLS 1233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LRSPMSFFERTPSGNLVNRFSKELDTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAA 1116
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                                                                                                                                                   MSYSLEVIGSLIWIVRITUTIEINIVSVERIVEYCELPPEAOSINPEKRPDENWPSKGGI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SESNEKNGSNERVWMFVGVYSLIGVAS--AAFNNLRSIMMLLYCSIRGSKKLHESMAKSV 1062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TDDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMAVSI---GGILASRCLHVDLLHSI 1056
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                                                                  WELAFKDKVLAIRQE-ELKVLKKSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILD
                                                                                                                                        WLLGKAVIGGLVTMAIMMPINAFLSRKVKKLSKTQMKYKDMRIKTITELLNAIKSIKLYA
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WEEPMMARLNHVRNDMELKNFRKIGIVSNLIYFAWNCVPLMVTCSTFGLF-SLFSDSPLS
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Search completed: December 15, 2005, 15:36:42 Job time : 54.8285 secs	1517 QR-GLFYSMAKDAG 1529 :       :   1543 DKTSIFYSLCEKGG 1556	1457 TAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQ 1516   :  :  :  :  :  :  :  :  :  :  :  :  :	1414 AL	1354 DGINIAKIGLHDLRFKITIIPQDPVLFSGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVS 1413    : :          :

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Perdu J., Germain D.P.; "Identification of novel polymorphisms in the pM5 and MRP1 (ABCC1) genes at locus 16p13.1 and exclusion of both genes as responsible pseudoxanthoma elasticum."; Hum. Mutat. 17:74-75(2001).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=21238219; PubMed=11278867; DOI=10.1074/jbc.M011246200; Ito K., Olsen S.L., Qiu W., Deeley R.G., Cole S.P.C.; "Mutation of a single conserved tryptophan in multidrug resistance protein 1 (MRP1/ABCC1) results in loss of drug resistance and selective loss of organic anion transport.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hipfner D.R., Almquist K.C., Leslie E.M., Gerla Deeley R.G., Cole S.P.C., Berla Deeley R.G., Cole S.P.C., mandrane topology of the multidrug resistance of glycosylation-site mutants reveals an extrac
                                                                                                                                                                                                                                                                                       Ringpfeil F., Lebwohl M.G., Christiano A.M., Uitto J.; "Pseudoxanthoma elasticum: mutations in the MRP6 gene encoding transmembrane ATP-binding cassette (ABC) transporter."; Proc. Natl. Acad. Sci. U.S.A. 97:6001-6006(2000).
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                                                                                         DOI=10.1002/1098-1004(2001)17:1<74::AID-HUMU14>3.0.CO;2-F
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MEDLINE=21578494;
                                                                                                                                                                                                                                                                                                                                         MEDLINE=20283940; PubMed=10811882; DOI=10.1073/pnas.100041297; Ringpfeil F., Lebwohl M.G., Christiano A.M., Uitto J.;
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"Epitope insertion favors a
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        DLINE=20296630; PubMed=10835642; I
Saux O., Urban Z., Tschuch C., C.
sglino D., Pasquali-Ronchetti I.,
rcovitch L., de Paepe A., Boyd C.!
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                                                                                                                                                                                                                    AND CHARACTERIZATION OF VARIANT VAL-671.
; PubMed=11721885; DOI=10.1007/s100380170017;
mann H.-M., Ito K., Deeley R.G., Cole S.P.C.,
                                                                                                                         AND LEU-1512.
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Csiszar K., Bacchel
, Pope F.M., Richar
                                                                                                                                                                        resistance protein 1 (MRP1) a G671V substitution.";
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-i- SIMILARITY: Belongs to the ABC transporter family. MRP subfamily.
-i- SIMILARITY: Contains 2 ABC transmembrane type-1 domains.
-i- SIMILARITY: Contains 2 ABC transporter domains.
-i- DATABASE: NAME=Atlas Genet. Cytogenet. Oncol. Haematol.;
WWW="http://www.infoblogen.fr/services/chromcancer/Genes/MRPID106.html"
                                                                                                                                                                                                                                                                                                                                     use
                                                                                                                                                                                                                                                                                                                                                This Swiss-Prot entry is copyright. It is produced through a c
between the Swiss Institute of Bioinformatics and the EMBL
the European Bioinformatics Institute. There are no restrict
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ito S., Ieiri I., Tanabe M., Suzuki A., Higuchi S., Polymorphism of the ABC transporter genes, MDR1,
                                                                                                                                                                                                                                                                                                    EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               IsoId=P33527-8; Sequence=VSP_000037, VSP_000038, -:- TISSUE SPECIFICITY: Lung, testis and peripheral blooms.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      in healthy Japanese subjects.";
Pharmacogenetics 11:175-184(2001).
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Comment=Additional isoforms
confirmation may be lacking
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IsoId=P33527-8; Seq.
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IsoId=P33527-4; S
Name=Delexon-17-18;
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AAB83983.1; JOINED;
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MEDLINE=98008927; PubMed=9344662; DOI=10.1006/geno.1997.4950;

(Grant C.E., Kurz E.U., Cole S.P.C., Deeley R.G.;

(T' "Analysis of the intron-exon organization of the human multidrug-

(T' resistance protein gene (MRP) and alternative splicing of its mRI

(C) -- SIMILARITY: Belongs to the ABC transporter family.

(E) EMBL; AF022853; AAB83979.1; -; Genomic DNA.

(E) EMBL; AF022857; AAB83979.1; JOINED; Genomic DNA.

(E) EMBL; AF022827; AAB83979.1; JOINED; Genomic DNA.

(E) EMBL; AF022831; AAB83979.1; JOINED; Genomic DNA.

(E) EMBL; AF022831; AAB83979.1; JOINED; Genomic DNA.

(E) EMBL; AF022833; AAB83979.1; JOINED; Genomic DNA.

(E) EMBL; AF022831; AAB83979.1; JOINED; Genomic DNA.

(E) EMBL; AF022837; AAB83979.1; JOINED; Genomic DNA.

(E) EMBL; AF022837; AAB83979.1; JOINED; Genomic DNA.

(E) EMBL; AF022837; AAB83979.1; JOINED; Genomic DNA.

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(E) EMBL; AF022837; AAB83979.1; JOINED; Genomic DNA.

(E) EMBL; AF022837; AAB83979.1; JOINED; Genomic DNA.

(E) EMBL; AF022839; AAB83979.1; JOINED; Genomic DNA.

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(E) EMBL; AF022839; AAB83979.1; JOINED; Genomic DNA.

(E) EMBL; AF022839
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Homo sapiens (Human).
Eukaryota; Metazoa; C
Mammalia; Eutheria; E
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NCBI_TaxID=9606;
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BMEL; AF022844; AAB83979.1; JOINED; Genomic DNA.

BMEL; AF022844; AAB83979.1; JOINED; Genomic DNA.

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BMEL; AF022842; AAB83979.1; JOINED; Genomic DNA.

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BMEL; AF022844; AAB83979.1; JOINED; Genomic DN
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A Perry W.L. III, Godinot N.;

A Perry W.L. III, Godinot N.;

A Perry W.L. III, Godinot N.;

Submitted (AUG-2002) to the ABC transporter family.

C -!- SIMILARITY: Belongs to the ABC transporter family.

REMBL; AY146673; AAN65349.1; -; mRNA.

REMSP; P08716; IMTO.

RO; GO:001612; C:integral to membrane; IEA.

GO; GO:001621; C:integral to membrane; IEA.

RGO; GO:00042626; F:ATPASE activity; IEA.

RGO; GO:000166; F:ATPASE activity; Coupled to transmembrane

GO; GO:000166; F:nucleotide binding; IEA.

RGO; GO:000166; F:nucleotide binding; IEA.

RGO; GO:0001610; P:transport; IEA.

RGO; GO:000610; P:transport; IEA.

RGO; GO:0001400; ABC membrane 1.

InterPro; IFR001527; ABC membrane 1.

InterPro; IFR001439; ABC Transpl 1:ke.

InterPro; IFR001439; ABC Transpl 1:ke.

InterPro; IFR0005292; MRP assoc.

RF InterPro; IFR000719; Prot kinase.

Pfam; PF00006; ABC trans; 2.

R Pfam; PF00005; ABC transporter; 2.

RP FAMSITE; PS00021; ABC TMANSPORTER 1; 2.

R PROSITE; PS0021; ABC TRANSPORTER 1; 2.

R PROSITE; PS00107; PROTEIN KINASE ATP; UNKNOWN 1.

ATP-binding; Nucleotide-binding; Repeat.
                                                                                                                                              Query Match
Best Local Similarity
Matches 1493; Conserv
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Q864R9_N
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MEDLINE-22544876; PUBMed-12657726;

Godinot N., Iversen P.W., Tabas L., Xia X., Williams D.C.,

Bantzig A.H., Perry W.L.;

"Cloning and functional characterization of the multidrug resistance-
associated protein (MRP1/ABCC1) from the cynomolgus monkey.";

Mol. Cancer Ther. 2:307-316(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUN-2003 (TrEMBLrel. 24, 01-JUN-2003 (TrEMBLrel. 24, 101-MAR-2004 (TrEMBLrel. 26, 1 Multidrug resistance protein
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NCBI_TaxID=9541;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
Cercopithecidae; Cercopithecinae; Macaca.
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                           KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
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RESULT 4
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OX NCBI_TAXID=9541;
RP NUCLEOTIDE SEQUENCE.
RT GSGdinot N, Iversen P.W., Tabas L., Xia
RA Dantzig A.H., Perry W.L.;
RT associated protein (MRPL/ABCC1) from th
RL Mol. Cancer Ther. 2:307-316(2003).
[2]
RP NUCLEOTIDE SEQUENCE.
[2]
RP NUCLEOTIDE SEQUENCE.
[3]
RP NUCLEOTIDE SEQUENCE.
[4]
RP NUCLEOTIDE SEQUENCE.
RC TISSUE=Kidney;
RA Perry W.L. III, Godinot N.;
RA Perry W.L. III, Godinot N.;
RA Submitted (AUG-2002) to the EMBL/GenBan
CC -!- SIMILARITY: Belongs to the ABC trans
RL Submitted (AUG-2002) to the EMBL/GenBan
CC -!- SIMILARITY: Belongs to the ABC trans
pDR GO; GO:0016021; C:integral to membrane;
DR GO; GO:0016021; C:integral to membrane;
GO; GO:0016021; C:integral to membrane;
DR GO; GO:000610; F:ATPase activity; Coup
DR GO; GO:000610; F:ATPase activity; Coup
DR GO; GO:000610; F:ATPase activity; Coup
DR GO; GO:000610; F:ATPase activity; Coup
DR GO; GO:000610; F:ATPase activity; Coup
DR GO; GO:000610; F:ATPase activity; Coup
DR GO; GO:000610; F:ATPase activity; Coup
DR GO; GO:000610; F:ATPase activity; Coup
DR GO; GO:000610; ABC Transporter; 2.
DR InterPro; IPR00359; ABC Transporter; 2.
DR Fam; PP00005; ABC Transporter; 2.
DR TIGROMS; TIGR00957; MRP assoc Dro; 1.
                                                              C TISSUE=Kidney;
A Perry W.L. III. Godinot N.;
A Perry W.L. III. Godinot N.;
L Submitted (AUG-2002) to the EMBL/GenBank/DDBJ databases.
C :- SIMILARITY: Belongs to the ABC transporter family.
DR EMBL; AY146672; AAN65348.1; -; mRNA.
DR GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0005524; F:ATP binding; IEA.
DR GO; GO:000566; F:ATPase activity; IEA.
DR GO; GO:00016687; F:ATPase activity, coupled to transmembran GO; GO:000166; F:ATPase activity, coupled to transmembran GO; GO:000166; F:ATPase activity, roughed to transmembran GO; GO:0006810; P:transport; IEA.
DR GO; GO:0006810; P:transport; IEA.
DR InterPro; IPR001527; ABC membrane 1.
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DR InterPro; IPR001140; ABC TM transpt.
DR InterPro; IPR003439; ABC transp like.
DR InterPro; IPR003439; ABC transp like.
DR InterPro; IPR003439; ABC transp like.
DR InterPro; IPR005292; MRP assoc.
DR InterPro; IPR005292; MRP assoc.
DR InterPro; IPR005292; MRP assoc.
DR InterPro; IPR005292; MRP assoc.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; 
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; 
Cercopithecidae; Cercopithecinae; Macaca.
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PROSITE; PS50893; ABC_TRANSPORTER 2; UNKNOWN_1.
PROSITE; PS00107; PROTEIN KINASE ATP; UNKNOWN_1.
ATP-binding; Nuclectide-binding; Repeat.
SEQUENCE 1531 AA; 171701 MW; 168712B8CC2D2B89
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                       LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL
                                                                                      MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM
                                                                                                                                  AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
                                                                                                                                                                                                    LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
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                                                                       MSGGKISEMGSYQELLARDGAFAEFLRTYASAEQEQDPEDNGVTGVSGPGKEAKQMENGM
        LVTDSAGKQLQRQLSSSSSYSGDVSRQHNSTAELQKDGAKKEETWKLMEADKAQTGQVKL
                                                                                                                                                                                                                                                                    LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAI
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SMART; SM00382; AAA; 2.
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PROSITE; PS50929; ABC TMAF; 2.
PROSITE; PS50931; ABC TRANSPORTER 1; UNIPROSITE; PS00117; ABC TRANSPORTER 2; 2.
PROSITE; PS001107; PROTEIN KINASE ATP; UNIPROSITE; PS001107; PROTEIN KINASE ATP; UNIPROSITE; Nucleotide-binding.
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Q9UQAO HUMAN PRELIMINARY; PRT; 1456

Q9UQAO;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
O1-MAY-2000 (TrEMBLrel. 13, Last sequence
O1-MAR-2004 (TrEMBLrel. 26, Last annotati
Multidrug resistance protein (Fragment).
Ensembl; ENSG0000103222; Homo sapiens.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:0005524; F:ATP binding; IEA.
GO; GO:0016887; F:ATPase activity; IEA.
GO; GO:001686; F:ATPase activity; Coupled to
GO; GO:000166; F:nucleotide binding; IEA.
GO; GO:0000166; F:nucleotide binding; IEA.
GO; GO:0000168; P:rransport; IEA.
InterPro; IPR011527; ABC_membrane_1.
InterPro; IPR01140; ABC_TM_transpt.
InterPro; IPR001439; ABC_transp_like.
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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pfam; PF00005; ABC transporter; 2.

ProDom; PD000006; ABC transporter; 2.

SMART; SM00382; AAA; 2.

TIGREAMS; TIGR00957; MRP assoc pro; 1.

PROSITE; PS50929; ABC TMIF; 2.

PROSITE; PS5093; ABC TRANSPORTER 1; 2.

PROSITE; PS50893; ABC TRANSPORTER 2; 2.

PROSITE; PS00107; PROTEIN KINASE ATP; UN

ATP-binding; Nucleotide-binding.
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InterPro; IPR000719; Prot_kinase.
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96.1%;
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DE Multidrug resistance-
GN Name-MXPI;
OS Canis familiaris (Dog
OC Eukaryota; Metazoa; C
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OC Mammalia; Butheria; L
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ON CBI_TAXID=9615;
RN [1]
RN MCLEOTIDE SEQUENCE.
RX MEDLINE=22404678; Pub
RA Ma L., Pratt S.E., Ca
RT resistance-associated
RL Mol. Cancer Ther. 1:1
RN [2]
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NUCLEOTIDE SEQUENCE.

K MEDLINE=22404678; PubMed=12516967;

Ma L., Pratt S.E., Cao J., Dantzig A.H., Mc

"Identification and characterization of the
"resistance-associated protein.";
Mol. Cancer Ther. 1:1335-1342(2002).

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04 (TrEMBLrel. 27, Last sequence update)
04 (TrEMBLrel. 27, Last annotation update)
resistance-associated protein 1.
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                                                                                                                                                                                  PRELIMINARY;
                                                                                             (Dog).
ca; Chordata; Craniata; Vertebrata; Euteleostomi;
ca; Chordata; Craniata; Vertebrata; Euteleostomi;
cai; Laurasiatheria; Carnivora; Fissipedia; Canidae;
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multidrug Slapak C.

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RA Ma L., Pratt S.E., Cao J., Dantzig A.H., Moore R.E., Slapak C.A.;

RL Submitted (AUG-2003) to the EMBL/GenBank/DDBJ databases.

CC -!- SIMILARITY: Belongs to the ABC transporter family.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

RO; GO:0001687; F:ATPASE activity; IEA.

RO; GO:000166; F:ATPASE activity; IEA.

RO; GO:000166; F:ATPASE activity; coupled to transmembrane m. .; IF

RO; GO:000166; F:ATPASE activity; IEA.

RO; GO:0006810; P:transport; IEA.

RO; GO:0006810; P:transport; IEA.

RO; GO:0006810; P:transport; IEA.

RO; GO:0006810; P:transport; IEA.

RO; GO:0006810; P:Transport; IEA.

RO; GO:0006810; P:Transport; IEA.

RO; GO:0006810; PRODO1140; ABC_TM_transplike.

RINterPro; IPR0011527; ABC_TMEDSEC.

ROR InterPro; IPR003439; AABC_TMEDSEC.

ROR InterPro; IPR003719; Proc_Kinase.

Pfam; PF00064; ABC_membrane; 2.

RR FASSITE; PS00016; ABC_TMANSPORTER; 2.

RR FASSITE; PS00017; ABC_TRANSPORTER_1; 2.

RR PROSITE; PS00011; ABC_TRANSPORTER_1; 2.

RR PROSITE; PS00017; PROTEIN KINASE_TP; UNKNOWN 1.

ROW SEQUENCE 1531 AA; 171792 NW; 746361A71C6158BD CRC64;

SQ SEQUENCE 1531 AA; 171792 NW; 746361A71C6158BD CRC64;
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Best Local Sim
Matches 1402;
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                                                                                                                                                                                  KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP
                              73.4%;
llarity 91.6%;
Conservative 70
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RESULT 8
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AC Q59G19;
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DT 10-MAY-2005 (7)
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                                                                                                ARALLEKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL
                                                                                                                              EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF
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                               PRELIMINARY;
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Created)
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Query Match
Best Local Similarity
Matches 1428; Conserv
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Eukaryota; Metazoa; C
Mammalia; Eutheria; E
Homo.
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Ohara O., Nagase
"None Title.";
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                              GPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWEL
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Wagase T., Kikuno F.R.;
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Euarchontoglires; Primates; Catarrhini; Homin
                                                                                                                                                                                                                                                                                                                                                                                                     73.1%;
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Pred. No. 0;
0; Mismatches
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RESULT 9
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                PRELIMINARY;
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RN MEDLINE=22062955; PubMed=12067707; DOI=10.1016/S0014-5793(02)02816-8;

RA Taguchi Y., Saeki K., Komano T.;

RT "Functional analysis of MRP1 cloned from bovine.";

RT FESS Lett. 521:211-213(2002).

CC -!- SIMILARITY: Belongs to the ABC transporter family.

CR MBL; AB082124; BAC1550.1; -; mRNA.

CR GO; GO:0016021; C:integral to membrane; IEA.

CG; GO:0016021; C:integral to membrane; IEA.

CG; GO:0005524; F:ATPD binding; IEA.

CG; GO:0006166; F:ATPD binding; IEA.

CG; GO:0006166; F:ATPD ase activity; Coupled to transmembrane m. ..; IEA.

CG; GO:0006166; F:ATPD ase activity; Coupled to transmembrane m. ..; IEA.

CG; GO:0006166; F:ATPD ase activity; IEA.

CG; GO:0006160; F:ATPD ase activity; Coupled to transmembrane m. ..; IEA.

CG; GO:0006160; F:ATPD ase activity; IEA.

CG; GO:0006160; F:ATPD ase activity; IEA.

CG; GO:0006160; F:ATPD ase activity; Coupled to transmembrane m. ..; IEA.

CG; GO:0006160; F:ATPD ase activity; IEA.

CG; GO:0006160; F:ATPD ase activity; IEA.

CG; GO:0006160; F:ATPD ase activity; Coupled to transmembrane m. ..; IEA.

CG; GO:0006160; F:ATPD ase activity; IEA.

CG; GO:0006160; F:ATPD ase activity; IEA.

CG; GO:0006160; F:ATPD ase activity; Coupled to transmembrane m. ..; IEA.

CG; GO:0006160; F:ATPD ase activity; IEA.

CG; GO:0006160; F:ATPD ase activity; IEA.

CG; GO:0006160; F:ATPD ase activity; IEA.

CG; GO:0006160; F:ATPD ase activity; IEA.

CG; GO:0006160; F:ATPD ase activity; IEA.

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CG; GO:0006160; F:ATPD ase activity; IEA.

CG; GO:0006160; F:ATPD ase 
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Best Local Simi
Matches 1388;
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Pecora; Bovidae; Bov:
NCBI_TaxID=9913;
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01-MAR-2003
01-OCT-2003
Multidrug re
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                                                                                                                                                                     LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
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LVLIQLVLSCFSDRSPLFSETINDPNPCPESSASFLSRITFWWITGMMVQGYRQPLESTD
                                                                                                                                                                                                                         TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS
|||||:|||:|||:|||:|||:|||:|||
TFLIQIERRRGVQSSGIMLTFWLIALLCALAILRSKIMTALKEDARVDVFRDVTFYIYFS
                                                                                                                                                                                                                                                                             DRGYIQMTPLNKTKTALGFILWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA
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                           WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
                                                                                                                                                                                                                                                                                                                               MALRDFCSVDGSDLFWEWNVTWNTSNPDFTKCFQNTVLVWVPCSYLWVCFPFYFLYLSHH
                                                               (TrEMBLrel. 23, Created)
(TrEMBLrel. 23, Last sequence update)
(TrEMBLrel. 25, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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ia; Laurasiatheria; Cetartiodactyla;
Bovinae; Bos.
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Pred. No. 0;
B3; Mismatches
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                                                                                                                                                                                   VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG
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 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
                                                                                            SGSLRMNLDPFSQYSDEEVWTSI
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                                                                                                                                             EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF
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ProDom; PDUUUUU, AAA; 2.
SMART; SM00382; AAA; 2.
SMART; SM00382; ARA; 2.
TIGRFAMs; TIGR00957; MRP_a8soc_pro; 1.
TPROSITE; PSS0929; ABC_TMIF; 2.
R PROSITE; PS00211; ABC_TRANSPORTER_1; UN
PROSITE; PS50893; ABC_TRANSPORTER_2; 2.
                                                                                                                                             Ensembl; ENSG0000103222; Homo sapiens.
GO; GO:0016021; C:integral to membrane; NA
GO; GO:0004409; F:homoaconitate hydratase
GO; GO:0006810; P:transport; NAS.
InterPro; IPR003593; AAA ATPase.
InterPro; IPR001527; ABC membrane 1.
InterPro; IPR001140; ABC TM transpt.
InterPro; IPR001349; ABC transp like.
InterPro; IPR005292; MRP_assoc.
InterPro; IPR005292; MRP_assoc.
InterPro; IPR005292; MRP_assoc.
Pfam; PR00664; ABC membrane; 2.
Pfam; PF00066; ABC membrane; 1.
ProDom; PD00006; ABC transporter; 1.
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"Analysis of the intron-exon organization of the human multidiresistance protein gene (MRP) and alternative splicing of its Genomics 45:368-378(1997).

-I - SIMILARITY: Belongs to the ""
EMBL; AF07707
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Multidrug resistance protein (Fragment).
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STRAIN=C57BL/6J; TISSUE=Testis;

MEDLINE=22354683; PubMed=12466851; DOI=10.1038/nature01266;

Okazaki Y., Furuno M., Kasukawa T., Adachi J., Bono H., Kondo S.,

Nikaido I., Osato N., Saito R., Suzuki H., Yamanaka I., Kiyosawa H.

Yagi K., Tomaru Y., Hasegawa Y., Nogami A., Schonbach C., Gojobori

Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J.,
                                                                                                                                                                                                                                                                   "Structure and expression of the messenger R1 multidrug resistance protein, an ATP-binding Mol. Pharmacol. 49:962-971(1996).
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Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurogna
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"Analveis of the mouse transcriptome based on functional annotation of
                                                                                                                                                                                                                                                                                                                                      InterPro; IPR003593; AĀA ATPase.
InterPro; IPR011527, ABC membrane
InterPro; IPR01140; ABC membrane
InterPro; IPR00140; ABC transp.l
InterPro; IPR003439; ABC transp.l
InterPro; IPR00592; MRP assoc.
Pfam; PF00664; ABC membrane; 2.
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SMART; S
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-i- SUBCELLULAR LOCATION: Integral membrane protein (By -i- SIMILARITY: Belongs to the ABC transporter family.
-i- SIMILARITY: Contains 2 ABC transporter domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Analysis of the mouse transcriptome 60,770 full-length cDNAs.";
Nature 420:563-573(2002).
                                                                                                                                                                                                                                                      TIGREAMS; TIGR00957; MRP assoc_pro; 1
PROSITE; PS50929; ABC_TRANSPORTER_1;
PROSITE; PS00211; ABC_TRANSPORTER_2;
PROSITE; PS50893; ABC_TRANSPORTER_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This Swiss-Prot entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EW the European Bioinformatics Institute. There are no restruce as long as its content is in no way modified and this s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MGI; MGI:102676; Abcc1.
GO; GO:0005887; C:integral to plasma
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P08716; 1MT0.
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BAC26654.1; -;
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; ABC membrane 1.
; ABC TM transpt.
; ABC transp like.
; MRP_assoc.
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VLDKGEVRECGAPSELLQQRGIFYSMAKDAGLV
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  Created)
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YADDUUCH H., Takayanagi S., Ishikawa T.;
Yabuuchi H., Takayanagi S., Ishikawa T.;
Submitted (FEB-2002) to the EMBL/GenBank/DDBJ data
-!- SIMILARITY: Belongs to the ABC transporter fam
EMBL; AF487549; AAO85437.1; -; mRNA.
HSSP; P08716; LMTO.
Ensembl; ENSRNOGO0000032748; Rattus norvegicus.
RGD; G0:0016021; C:integral to membrane; IEA.
G0; G0:0005524; F:ATPase activity; IEA.
G0; G0:0005524; F:ATPase activity, coupled to tran
G0; G0:0001687; F:ATPase activity, coupled to tran
G0; G0:0001686; F:mCleotide binding; IEA.
G0; G0:0001666; F:mcleotide binding; IEA.
G0; G0:0001687; ABC membrane 1.
InterPro; IPR001523; AAC AFPase.
R InterPro; IPR001593; AAC AFPase.
R InterPro; IPR001395; ABC membrane; 2.
R Ffam; PF000664; ABC membrane; 2.
R Ffam; PF000664; ABC membrane; 2.
R Ffam; PF00005; ABC transporter; 2.
R Ffam; PF00005; ABC transporter; 2.
R FMART; SM00382; AAA; 7.
R FMART; SM00382; AAA; 7.
R FMART; SM00382; AAA; 7.
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Best Local Similarity
Matches 1339; Conser
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01-MAR-2004
ATP-binding
Name=Abcc1;
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SMART; SM00382; AAA; 2.

TIGRFAMs; TIGR60957; MRP assoc_pro; 1.

PROSITE; PS50929; ABC TMLF; 2.

PROSITE; PS00211; ABC TRANSPORTER 1; 2.

PROSITE; PS0093; ABC TRANSPORTER 2; 2.

PROSITE; PS00063; ALDGKETO REDUCTASE 3; UNKNOWN 1.

ATP-binding; Nucleotide-binding; Repeat.

SEQUENCE 1532 AA; 171493 MW; 2E6939F63F5A3F68
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[1]
NUCLEOTIDE SEQUENCE
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Eukaryota; Metazoa; Chordata; Craniat
Mammalla; Eutheria; Euarchontoglires;
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                                                                                  DWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSST
                                     LIVKSSHKDRDPSLFKVLYKTFGPYFLMSFLYKALHDLMMFAGPEILELIINFVNDREAP
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Best Local Similarity
Matches 1338; Conserv
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RGD; GO:0016021; C:integral to membrane; IEA.

GO; GO:0005524; F:ATP binding; IEA.

GO; GO:0005524; F:ATP binding; IEA.

GO; GO:0004526; F:ATPase activity, coupled to trar

GO; GO:000166; F:nucleotide binding; IEA.

GO; GO:000166; F:nucleotide binding; IEA.

GO; GO:000167; F:ATPASE activity, coupled to trar

GO; GO:000167; F:ATPASE activity.

GO; GO:0000167; F:ATPASE activity.

GO; GO:0000187; F:ATPASE activity.

GO; GO:00001880; F:TTANSPORT; IEA.

InterPro; IPR001593; AAA, ATPASE.

InterPro; IPR001395; ABC TM transpt.

InterPro; IPR001395; Aldo/Ket_red.

InterPro; IPR001395; Aldo/Ket_red.

InterPro; IPR001395; MRP assoc.
                                                                                                                                                                                                                                                                                                                                         ProDom; F000006; ABC transporter; 2.

ProDom; B000006; ABC transporter; 2.

PROSITE; PS50929; ABC TMIF; 2.

PROSITE; PS00211; ABC TRANSPORTER 1; 2.

PROSITE; PS00033; ABC TRANSPORTER 2; 2.

PROSITE; PS00063; ALDŌKETO REDUCTĀSE 3; UNKNOWN 1.

ATP-binding; Nucleotide-binding; Repeat.

SEQUENCE 1532 AA; 171558 MW; C18F3554DD85732A CRC64;
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-i-SIMILARITY: Belongs to the ABC transporter family.
EMBL; AY170916; AAN86532.1; -; mRNA.
HSSP; P08716; 1MTO.
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QBCG09_0
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01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
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LVFIQLVLSCFSDSSPLFSETVRDPNPCPESSASFLSRITFWWITGMMVQGYRQPLKSSD
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DT 01-MAR-2004 RATP-binding c
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OC MARMALIA; EUT
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CC STRAIN-Spragu
RA SUBMILLARIT
RAY NUCLEOTIDE SI
RC STRAIN-Spragu
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RAY NUCLEOTIDE SI
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A Takayanagi S., Ishikawa T.;

E Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases.

C -- SIMILARITY: Belongs to the ABC transporter family.

R EMBL; AY174892; AAO44983.1; -; mRNA.

R HSSP; P08716; LWT0.

R RGD; 3112; Abccl.

R RGD; 3112; Abccl.

R GO; GO:0016021; C:integral to membrane; IEA.

R GO; GO:001687; F:ATP binding; IEA.

R GO; GO:0005524; F:ATP binding; IEA.

R GO; GO:0004266; F:ATPase activity; coupled to transmembrane

R GO; GO:000166; F:nucleotide binding; IEA.

R GO; GO:000166; F:rucleotide binding; IEA.

R GO; GO:0006810; P:transport; IEA.

R GO; GO:0006810; P:transport; IEA.

R GO; GO:006810; P:transport; IEA.
                                                                                                                                                      InterPro; IPR001593; AAA_ATPase.

InterPro; IPR001597; ABC_membrane 1.

R InterPro; IPR001140; ABC_TM_transpt.

R InterPro; IPR001439; ABC_TM_transp_like.

R InterPro; IPR001395; Aldo/ket_red.

R InterPro; IPR001395; Aldo/ket_red.

R InterPro; IPR005292; MRP_assoc_

R Pfam; PF00664; ABC_membrane; 2.

R Pfam; PF00005; ABC_transporter; 2.

R Pfam; PF000005; ABC_transporter; 2.

R Pfond, PD000006; ABC_transporter; 2.

R Pfond, PD000006; ABC_transporter; 2.

R Pfond, PD000006; ABC_transporter; 2.

R ProDom; PD0000095; AAA; 2.

R PROSITE; PS00382; AAA; 2.

R PROSITE; PS00211; ABC_TRANSPORTER 1; 2.

R PROSITE; PS00211; ABC_TRANSPORTER 2; 2.

R PROSITE; PS00063; ALDOKETO_REDUCTASE 3; UNKNOWN_1.

M ATP-binding; Nucleotide-binding; Repeat.

M ATP-binding; Nucleotide-binding; Repeat.
                                                                                               Query Match
Best Local Similarity
Matches 1333; Conserv
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
Muridae; Murinae; Rattus.
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                                MALRSFCSSDGSDFLWDWNVTWHTSNPDFTKCFQNTVLTWVPCFYLWSCFPLYFLYLSRH
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Search completed: December 15, 2005, 15:33:43 Job time : 252.254 secs

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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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1: /cgn2_6/ptodata/1/iaa/5_COMB.pep:*

2: /cgn2_6/ptodata/1/iaa/6_COMB.pep:*

3: /cgn2_6/ptodata/1/iaa/H_COMB.pep:*

4: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

5: /cgn2_6/ptodata/1/iaa/RE_COMB.pep:*

6: /cgn2_6/ptodata/1/iaa/RE_COMB.pep:*
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21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.1	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9
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ALIGNMENTS

## Sequence 4, Application US/08463092B Patent No. 576680 (Susan P.C.) APPLICANT: Cole, Susan P.C. APPLICANT: Cole, Susan P.C. APPLICANT: Cole, Susan P.C. APPLICANT: Decley, Roger G. TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULES ENCODING ITTLE OF INVENTION: AULTIDRUG RESISTANCE PROTEINS NUMBER OF SEQUENCES: 9 CORRESPONDENCE ADDRESS: ADDRESSEE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS STREET: Queen's University at Kingston CITY: Kingston CITY: Kingston CITY: Kingston COUNTRY: CANADA ZIP: KT1 JM6 COMPUTER: ADABLE FORM: MEDIUM TYPE: Flopy disk COMPUTER: EADABLE FORM: MEDIUM TYPE: Plopy disk COMPUTER: LBM PC Compatible OPERATING SYSTEM: PC\_DOS/MS-DOS SOFTWARS: ASCII text CURRENT AFPLICATION DATA: APPLICATION NUMBER: US/08/463,092B FILING DATE: 05-UN-1995 CLASSIFICATION NUMBER: US/08/463,092B FILING DATE: 27-OCT-1992 CLASSIFICATION NUMBER: 08/07/566,923 FILING DATE: 8-MAR-1995 CLASSIFICATION DATA: APPLICATION NUMBER: 08/029,340 FILING DATE: 8-MAR-1993 FILING DATE: 8-MAR-1993 FILING DATE: 8-MAR-1993 FILING DATE: 26-OCT-1992 CLASSIFICATION NUMBER: 08/407,207 FILING DATE: 20-MAR-1995 CLASSIFICATION NUMBER: 08/407,207 FILING DATE: 20-MAR-1995 CLASSIFICATION NUMBER: 08/407,207 FILING DATE: 20-MAR-1995 CLASSIFICATION NUMBER: 08/407,207 FILING DATE: 20-MAR-1995 CLASSIFICATION NUMBER: 08/407,207 FILING DATE: 20-MAR-1995 CLASSIFICATION NUMBER: 08/407,207 FILING DATE: 20-MAR-1995 REFERENCE/DOCKET NUMBER: 03/539 REFERENCE/DOCKET NUMBER: 03/546 TELECOMMUNICATION INFORMATION: TELEPDAX: (613) 545-6853 INFORMATION FOR SEQ ID NO: 4:

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Matches 1531;
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LENGTH: 1531 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
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LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL
                                                             AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
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                      DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
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DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
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GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING
TITLE OF INVENTION: MULTIDRUG RESISTANT TUM
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSE: LAHIVE & COCKFIELD STREET: 60 State Street, suite 510
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,109/
FILING DATE:
CLASSIFICATION NUMBER: 07/966,923
APPLICATION NUMBER: 08/029,340 US/08462109A US/08/462,109A 510 TUMOR

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APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DECONTI, Giulio A. Jr.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: PQI-002CP4
TELECOMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEFAX: (617) 227-941
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 78.5%; Score 7860; DB: Best Local Similarity 100.0%; Pred. No. 0; Matches 1531; Conservative 0; Mismatches
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LENGTH: 1531 amino acids
TYPE: amino acid
TYPE: amino acid
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SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
                                      LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
                                                                                                                                      KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600
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                       LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND
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RESULT 3

US-08-460-907B-4

; Sequence 4, Application US/08460907B

; Sequence 5891724

; Patent No. 5891724

; GENERAL INFORMATION:
APPLICANT: Deeley, Roger G.
APPLICANT: Cole, Susan P.C.

; TITLE OF INVENTION: METHODS FOR CONFERRING MULTIDRUG

; TITLE OF INVENTION: RESISTANCE ON A CELL

; MUMBER OF SEQUENCES:
; CORRESPONDENCE ADDRESS:
; CORRESPONDENCE ADDRESS:
; CORRESPONDENCE ADDRESS:
ADDRESSEE: PARTEQ RESEARCH & STREET: Queen's University a CITY: Kingston STATE: Ontario COUNTRY: 'CANADA ZIP: K7L 3N6
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Qy 1501 DKGBIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531	Qy 1441 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 	Db 1381 SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL	1321	1261		QY 1141 KKLESVSRSPYYSHFNETTLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA	QY 1081 DTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQL	Qy 1021 ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL	Qy 961 SVYWDYNKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG	Qy 901 LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL 	Qy         841 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM	Qy 781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV	Qy 721 SLRENILFGCQLEEPYYRSVIQACALLPDLBILPSGDRTEIGEKGVNLSGGQKQRVSLAR 	Qy 661 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND	Qy 601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT	Qy 541 KSAYLSAVGTETWVCTPELVALCTEAVYVTIDENNILDAQTAFVSLALENILREPLNILE	Qy 481 AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK	Db 421 GEIVNIMSVDAQRFMDLATYINNIWSAPLQVILALYLIMINIGPSVLAGVAVVAVVVVVVVV
1531	RTOFEDCTVLTIAHRLNTIMDYTRVIVL 1500 	SALFUKLUHECAEGGENLSVOGRQLVCL 1440					PIAAIIIPPLGLIYFFVQRFYVASSRQL 1140 	LHSILRSPMSFFERTPSGNLVNRFSKEL 1080	NYMLSLWIDDPIVNGTQEHTKVRLSVYG 1020 	ELQKAEAKKEETWKLMEADKAQTGQVKL 960 	EQEQDAEENGVTGVSGPGKEAKQMENGM 900	PKGMLKNKTRILVTHSMSYLPQVDVIIV 840	LPSGDRTEIGEKGVNLSGGOKORVSLAR 780 	AEMDKVEGHVAIKGSVAYVPQQAWIQND 720	RPVKDGGGTNSITVRNATFTWARSDPPT 660 	ENNILDAQTAFVSLALFNILRFPLNILP 600	KVLKLYAWELAFKDKVLAIRQEELKVLK 540 	

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US-08-463-179A-4
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Best Local Similarity
Matches 1531; Conserv
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MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/463,179A
FILING DATE:
CLASSIFICATION DATA:
APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
APPLICATION NUMBER: 08/407,207
FILING DATE: 108/407,207
FILING DATE: 20-MAR-1995
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
REFERENCE/DOCKET NUMBER: PQI-002CP8
TELEPAN: (617) 227-7400
TELEPAN: (617) 227-75941
THORDEMATION FOR SOT IN NO. 4.
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
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APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
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COUNTRY: USA
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APPLICANT: FOX Chase Cancer Center
APPLICANT: Kruh, Gary D.
APPLICANT: Lee, Kun
APPLICANT: Lee, Kun
APPLICANT: Belinsky, Martin G.
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APPLICANT: Belinsky, Martin G.
APPLICANT: Belinsky, Martin G.
FILE REFERENCE: FCCC 98-02
CURRENT INVENTION: Nucleic Acids and Methods of Use Thereof FILE REFERENCE: FCCC 98-02
CURRENT APPLICATION NUMBER: US/09/647,140B
CURRENT APPLICATION NUMBER: FOT/US99/06644
PRIOR APPLICATION NUMBER: 60/079,759
PRIOR APPLICATION NUMBER: 60/079,759
PRIOR APPLICATION NUMBER: 60/079,759
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: 60/095,153
PRIOR FILING DATE: 1998-08-03
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 19
LENGTH: 1531
TYPE: PRT
ORGANISM: Homo Sapiens
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Best Local Similarity 100.0%;
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                VERLKEYSETEKEAPWQ1QETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG
                                                   VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA
                                                                                                                   KRLESVSRSPVYSHFNETILIGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA
                                                                                                                                                                      DTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQL
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	Qy 61 DRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA 120	OY 1 MALRGECSADGSDPLWDWNVTWNTSNPDETKCEQNTVLVWVPCEYLWACEPEYELYLGRH 60	Query Match 78.4%; Score 7849; DB 1; Length 1531; Best Local Similarity 99.9%; Pred. No. 0; Matches 1529; Conservative 0; Mismatches 2; Indels 0; Gaps (	2745	TELEFAX: (617) 227-5149 ; INFORMATION FOR SEQ ID NO: 2: ; SEQUENCE CHARACTERISTICS: ; LENGTH: 1531 amino acids	REGISTRATION NUMBER: 31,503 REFERENCE/DOCKET NUMBER: PQI-002 TELECOMMUICATION INFORMATION: TELEDIONE: (617) 227-7400	APPLICATION NUMBER: 07/966,923; 08/029,340; FILING DATE: 27-0CT-1992; 8-MAR-1993; ATTORNEY/AGENT INFORMATION: NAME: DeCort Ginlica Jr.	APPLICATION NUMBER: US/08/141,893 FILING DATE: CLASSIFICATION: 424 PRIOR APPLICATION DATE.	R: IBN	COUNTRY: USA COUNTRY: USA ZIP: 02109 COMPUTER READABLE FORM: MEDIUM TYPE: Florey disk	ADDRESSE: LAHIVE & COCKFIELD STREET: 60 STATE STREET, SUITE 510 CITY: BOSTON STATE: MASACHISETTS	APPLICANT: Decley, Roger G. TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEIN NUMBER OF SEQUENCES: 2 CORRESPONDENCES: 2	Sequence 2, Application US/08141893; Patent No. 5489519; Patent No. 5489519; GENERAL INFORMATION:	SULT 7	Qy 1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531 	Qy 1441 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 1500 	QY 1381 SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440	Oy 1321 EKVGIVGRTGAGKSSLTLGLFRINESABGEIIIDGINIAKIGLHDLRFKITIIPODPVLF 1380
QY 1201 VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260	OY 1141 KKLESVSKSPYYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPS1VANKWLA 1200  Db 1141 KRLESVSRSPYYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPS1VANKWLA 1200	1081 DTVDSHIFE BY INCH POSTERVICE TO THE TABLE TO THE TOTAL TO THE TOTAL	1021 ALGISQGI           1021 ALGISQGI	961 SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQBHTKVRLSVYG 1	Oy 901 LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL 960	Qy 841 MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM 900	Qy 781 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV 840	Qy 721 SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGÇKQRVSLAR 780	Qy 661 LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND 720	Qy 601 MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT 660	Qy 541 KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 600	Qy 481 AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK 540	QY 421 GEIVNIMSVDAQRFMDIATYINMIWSAPLQVILALYLIMLNIGPSVLAGVAVMVIMVPVN 480	Qy 361 WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV 420	Db 301 IVKSPQKEWNPSLEKVLYKTEGPYFLMSEFFKAIHDLMMESGPQILKLLIKEVNDTKAPD 360	Oy 241 LWSLINKEDT/SEQVVPVLVKIWKKECAKTEROPVKVVYSSKOPAQPKESSKVDANEEVEAL	Db 181 LLLIQLVLSCFSDRSPLFSSTIHDPNPCPESSASFLSRIIFWWITGLIVRGYRQPLEGSD	Oy 121 TFLIQLERRKGVQSSGIMLTFWLVALAILRSKIMTALKEDAQVDLFRDITFYVYFS

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US-08-463-092B-2
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Patent No.
                                    ZIP: XTL 306

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/463,0921
FILING DATE: 05-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION UNMBER: 00/029,340
FILING DATE: 8-MAR-1993
CLASSIFICATION DATA:
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
CLASSIFICATION DATA:
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
CLASSIFICATION UNMBER: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION UNMBER: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION UNMBER: 39,539
ATTORNAPTICATION UNMBER: 39,539
RESPERENCE/DOCKET NUMBER: 016446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULES ENCODING
TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS
NUMBER OF SEQUENCES: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET: Queen b CITY: Kingston STATE: Ontario COUNTRY: CANADA ZIP: K7L 3NG
 TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-2342
TELEFAX: (613) 545-6853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS STREET: Queen's University at Kingston
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SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acid
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
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Best Local Similarity 99.9
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LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL
                         MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM
                                            MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM
                                                                             AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
                                                                                               AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
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US-08-462-109A-2
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PATENT NO. 5882875
GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: METHODS FOR IDENTIFYING
TITLE OF INVENTION: MULTIDRUG RESISTANT TUMOR CELLS
NUMBER OF SEQUENCES: 6
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,1091
FILING DATE:
CLASSIFICATION DATA:
APPLICATION UMBER: 07/966,923
FFILING DATE: 27-0CT-1992
                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
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STREET: 60 St.
CITY: Boston
STATE: Massaci
COUNTRY: USA
ZIP: 02109
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INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
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Best Local S
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ETILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DeConti, Giulio A. Jr.
REGISTRATION NUMBER: 31,503
REFERENCE/DOCKET NUMBER: POI-002
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
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nes 1529; Conserv
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Pred. No. 0;
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RESULT 10
US-08-460-907B-2
                                               GENERAL INFORMATION:
APPLICANT: Deeley, Roger G.
APPLICANT: Cole, Susan P.C.
TITLE OF INVENTION: METHODS FOR CO
TITLE OF INVENTION: RESISTANCE ON
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
ADDRESSEE: PARTEQ RESEARCH & DEV
STREET: Queen's University at Ki
                                                                                                                                                                                                        Sequence 2, Application Patent No. 5891724
STREET: Queen's CITY: Kingston STATE: Ontario COUNTRY: CANADA
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                                                   & DEVELOPMENT at Kingston
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; TYDE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: prote
US-08-460-907B-2
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CLASSIFICATION 424
PRIOR APPLICATION DATA: 08/029,340
FILING DATE: 8-MAR-1993
CLASSIFICATION UNMBER: 08/141,893
PRIOR APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
CLASSIFICATION A24
PRIOR APPLICATION DATA: 424
PRIOR APPLICATION DATA: 08/407,207
FILING DATE: 20-MAR-1995
CLASSIFICATION: 424
PRIOR APPLICATION: 424
CLASSIFICATION: 424
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PRIOR APPLICATION: 424
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COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC COMPATIBLE

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: ASCII text

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/460,907:

FILLING DATE: 05-UN-195

CLASSIFICATION MATA:

APPLICATION DATA:

APPLICATION DATA:

APPLICATION NUMBER: 07/966,923

PILLING DATE: 07-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,539
REFERENCE/DOCKET NUMBER: Q1551
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-2342
TELEFAX: (613) 545-6853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Match 78.4%;
Local Similarity 99.9%;
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                                                                                                       IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
                                                                                                                                                   LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL
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                WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
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                                                                                     IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
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Pred. No. 0;
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                                                                                        SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL
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                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IN PROPER TION
COMPUTER: IMP PC COMPATIBLE
COMPUTER: ASCII TEXT
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/463,179A
FILING DATE:
CLASSIFICATION: 536
PRIOR APPLICATION NUMBER: 07/966,923
FILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
APPLICATION NUMBER: 08/141,893
APPLICATION NUMBER: 08/407,207
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: DECONTI, Giulio A. Jr.
REGISTRATION NUMBER: 901-002CP8
TELERBHONE: (617) 27-7400
TELERAY. (617) 27-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Dealey, Roger G.
TITLE OF INVENTION: METHODS
                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2
SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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CORRESPONDENCE ADDRESS:
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CITY: Boston
STATE: Massachusetts
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid TOPOLOGY: linear
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Pred. No. 0;
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                                                                                                                                                                                                            KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 1200
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                                                           VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG
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; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-461-384B-2
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US-08-461-384B-2
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                                                        Matches 1529;
                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                           SOFTWARE: ASCII text
CURRENT APPLICATION DATA:
APPLICATION UNMER: US/08/461,38.
FILING DATE: 05-JUN-95
PRIOR APPLICATION DATA:
APPLICATION UNMER: 07/966,923
FILING DATE: 27-0CT-1992
APPLICATION NUMBER: 08/029,340
FILING DATE: 8-MAR-1993
APPLICATION NUMBER: 08/141,893
FILING DATE: 26-0CT-1993
APPLICATION NUMBER: 08/407,207
FILING DATE: 20-MAR-1995
APPLICATION UNMER: 08/407,207
FILING DATE: 20-MAR-1995
APPLICATION UNMER: 39,539
APPLICATION UNMER: 39,539
REFERENCE/DOCKET NUMBER: 0,1547
TELEPHONE: (613) 545-633.
THELEPHONE: (613) 545-633.
                                                                                                                                                                                                                                               TELEFAX: (613) 545-68: INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: MULTIDRUG
                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 1531 amino acids
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ADDRESSEE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS
STREET: Queen's University at Kingston
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                                                                                                                                                                                        LENGTH:
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ZIP: K7L 3N6
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1 MALRGFCSADGSDFLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH
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481 AVMAMKTKTYQVAHMKSKDNRIKLMNBILMGIKVLKLYAMELAFKOKVLAIRGEELKVLK 540 81 AVMAMKTKTYQVAHMKSKDNRIKLMNBILMGIKVLKLYAMELAFKOKVLAIRGEELKVLK 540 841 KSAYLSAVGTFTWVCTPBLVALCTFAVVVTIDENNILDAQTAFVSLALFNILAFDLAILD 600 841 KSAYLSAVGTFTWVCTPBLVALCTFAVVVTIDENNILDAQTAFVSLALFNILAFNILAFPLAILD 600 841 KSAYLSAVGTFTWVCTPBLVALCTFAVVVTIDENNILDAQTAFVSLALFNILAFPLAILD 600 841 KSAYLSAVGTFTWVCTPBLVALCTFAVVVTIDENNILDAQTAFVSLALFNILAFPLAILD 600 841 KSAYLSAVGTFTWVCTPBLVALCTFAVVVTIDENNILDAQTAFVSLALFNILAFPLAILD 600 841 KSAYLSAVGTFTWVCTPBLVALCTFAVVVTIDENNILDAQTAFVSLALFNILAFPLAILD 600 841 LNGITFSIPBGALVAVVQOVGCGKSSLLSALLAFNKVEGGTNSITVRNATFTWARSDPFT 600 841 LNGITFSIPBGALVAVVQOVGCGKSSLLSALLAFNKVEGGHVALKGSVAVVPQOANIOND 720 841 LNGITFSIPBGALVAVVQOVGCGKSSLLSALLAFNKVEGGHVALKGSVAVVPQOANIOND 720 841 LNGITFSIPBGALVAVVQOVGCGKSSLLSALLAFNKVEGGHVALKGSVAVVPQOANIOND 720 842 SILRENILFGQOLEBPYTRSVIQACALLPDLEILPSGDRTBIGEKGVNLSGQOKGVSLAR 780 843 LNGITFSIPBGALVAVVQOVGCGKSSLLAFNLSTALEDEKGHVALKGSVAVVPQOANIOND 720 844 LNGITFSIPBGALVAVVQOVGCGKSSLLAFNLSTALEDEKGHVALKGSVAVVPQOANIOND 720 845 LNGITFSIPBGALVAVVQOVGCGKSSLLAFNLSTALEDEKGHLKKTRILVTHSMSYLPQUDVILV 840 846 LNGITFSIPBGALVAVVQOVGCGKSSLLAFNLSTATSTBOEDDARENGVTGVGGGGKBAKQMENOM 900 847 MSGGKLSEMGSYQELLARDGAPABFLATYASTBOEDDARENGVTGVGVGGGGKBAKQMENOM 900 841 MSGGKLSEMGSYQELLARDGAPABFLATYASTBOEDDARENGVTGVGVGGGGKBAKQMENOM 900 841 MSGGKLSEMGSYQELLARDGAPABFLATYASTBOEDDARENGVTGVGGGGGGBAKQMENOM 900 841 MSGGKLSEMGSYQELLARDGAPABFLATYASTBOEDDARENGVTGVGGGGGGBAKQMENOM 900 841 MSGGKLSEMGSYQELLARDGAPABFLATYASTBOEDDARENGVTGVGGGGGGBAKQMENOM 900 841 MSGGKLSEMGSYQELLARDGAPABFLATYASTBOEDDARENGVTGVGGGGGBAKQMENOM 900 841 MSGGKLSEMGSYQELLARDGAPABFLATYASTBOEDDARENGVTGVGGGGGGGBAKQMENOM 900 841 MSGGKLSEMGSYQELLARDGAPABFLATYASTBOEDDARENGVTGVGGGGGGGARAQMENOM 900 842 MSGGKLSEMGSYQELLARDGAPABFLATYASTBOEDDARENGVTGVGGGGGGGARAQMENOM 900 843 MSGGKLSEMGSYQELLARDGAPABFLATYASTBOEDDARENGVTGVGGGGGGGARAQMENOM 900 844 MSGGKLSEMGSYQELLARDGAPABFLATYASTBOEDDARENGVTGVGGGGGGGARAQMENOM 900 901 LYTDSAGCQLGGGSSSSSYGDISRHNGSTAELQKAARKEETWKLMEADKAQTGQHLAVGGGGGGGGAGAARGATAT	
RESULT 13  US-08-407-207A-2  US-08-407-207A-2  US-08-407-207A-2  Sequence 2, Application US/08407207A  Sequence 2, Application US/08407207A  Patent No. 6063621  REPLICANT: Deeley, Roger G. APPLICANT: Deeley, Roger G. APPLICANT: Deeley, Roger G. APPLICANT: Deeley, Roger G. APPLICANT: Ole, Susan P.C.  ITTLE OF INVENTION: ANTISODIES TO A MULTIDRUG RESISTANCE PROTEIN  NUMBER OF SEQUENCES: 7  CONRESPONDENCE ADDRESS: ADDRESSE: PARTOQ RESEARCH & DEVELOPMENT INNOVATIONS  CITY: KINGSton  CITY: KINGSTON  STATE: Onen's University at Kingston  CITY: KINGSTON  CONFURE READABLE FOOM:  MEDIUM TYPE: Flopy disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: Flopy disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: Plopy disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: Plopy disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: Plopy disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: Plopy disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: PLOPY disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: PLOPY disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: PLOPY disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: PLOPY disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: PLOPY disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: PLOPY disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: PLOPY disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: PLOPY disk  COMPUTER READABLE FOOM:  MEDIUM TYPE: PROTEIN: PC-DOS/MS-DOS  SOUTMAND AND TYPE: AND THE COMPANY ON THE COMPUTER TYPE: PLOPY ON THE COMPUTER TYPE: PL	Db 1141 KRLESVSRSPVYSHFNETILGVSVIRAFEBOERFIHOSDLKVDENQKAYYPSIVANRWLA 1200  Qy 1201 VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260  Db 1201 VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 1260  Qy 1261 VERLKEYSETEKEAPWOIOETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1320  Qy 1261 VERLKEYSETEKEAPWOIOETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 1320  Qy 1321 EKVGIVGRTGAGKSSLTLGLFRINESAEGBIIIDGINIAKIGLHDLRFKITIIPQDPVLF 1380  Qy 1321 EKVGIVGRTGAGKSSLTLGLFRINESAEGBIIIDGINIAKIGLHDLRFKITIIPQDPVLF 1380  1381 SGSLRNNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440  QY 1441 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTINDYTRVIVL 1500  Db 1441 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTINDYTRVIVL 1500  1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531  Db 1501 DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV 1531

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                                                              MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM
                                                                               AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
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                                                                                                                  SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR
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                                                                                                                SGSLRWNILDPFSQYSDEEVWTSLEIAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 1440
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US-08-463-092B-6

(Sequence 6, Application US/08463092B

Patent No. 5766880

GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.
TITLE OF INVENTION: ISOLATED NUCLEIC ACID MOLECULES ENCODING
TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS
NUMBER OF SEQUENCES: 9

CORRESPONDENCE ADDRESS:
ADDRESSE: PARTEQ RESEARCH & DEVELOPMENT INNOVATIONS
STREET: Queen's University at Kingston
CITY: Kingston
STATE: Ontario
COUNTRY: CANADA
ZIP: K7L 3N6
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII text
CURRENT APPLICATION NUMBER: US/08/463,092B
FILING DATE: 05-UN-1995
CLASSIFICATION NUMBER: US/08/463,092B
FILING DATE: 27-OCT-1992
CLASSIFICATION NUMBER: 07/966,923
FILING DATE: 27-OCT-1992
CLASSIFICATION NUMBER: 08/029,340
FILING DATE: 8-WAR-1993
CLASSIFICATION NUMBER: 08/029,340
FILING DATE: 8-WAR-1993
CLASSIFICATION NUMBER: 08/029,340
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NAME: Steeg, Carol Miernicki
REGISTRATION NUMBER: 39,339
REFERENCE/DOCKET NUMBER: Q1546
TELECOMMUNICATION INFORMATION:
TELEPHONE: (613) 545-2342
TELEFAX: (613) 545-6853
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 1528 amino acids
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Best Local Similarity
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CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UMBER: 08/407
FILING DATE: 20-MAR-1995
CLASSIFICATION: 435
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      TLNGITESIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQN
                             LVLVQLVLSCFSDCSPLFSETVHDRNPCPESSASFLSRITFWWITGMMVHGYRQPLESSD
                                                              KKSAYLAAVGTETWVCTPFLVALSTFAVFVTVDERNILDAKKAFVSLALFNILRFPLNIL
                                                                       KKSAYLSAVGTETWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILFRPLNIL
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TLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVTLKGSVAYVPQQAWIQN
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                                          CLARALLRKTKILVLDEATAAVDLETDNLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVI
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                                                                                  LFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLV 1438
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RESULT 15

US-08-462-109A-6

JS-08-462-109A-6

Sequence 6, Application US/08462109A

Patent No. 5882875

GENERAL INFORMATION:
APPLICANT: Cole, Susan P.C.
APPLICANT: Deeley, Roger G.

TITLE OF INVENTION: METHODS FOR IDENTIFYING
TITLE OF INVENTION: MULTIDRUG RESISTANT TUMOR CELLS
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHLVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boston
STATE: Wassachusetts
COUNTRY: USA

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Query Match
Best Local Sim
Matches 1349;
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COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC COMPATIBLE

COMPUTER: IBM PC COMPATIBLE

COMPUTER: PC-DOS/MS-DOS

SOFTWARE: ASCII text

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/462,109A

FILING DATE:

CLASSIFICATION LATA:

APPLICATION NUMBER: 07/966,923

FILING DATE: 27-0CT-1992

APPLICATION NUMBER: 08/029,340

FILING DATE: 8-MAR-1993

APPLICATION NUMBER: 08/141,893

FILING DATE: 26-0CT-1993

APPLICATION NUMBER: 08/407,207

FILING DATE: 20-MAR-1995

APPLICATION NUMBER: 08/407,207

FILING DATE: 20-MAR-1995

APPLICATION NUMBER: 08/407,207

FILING DATE: 21-MAR-1995

APPLICATION NUMBER: 31,503

REFERENCE/DOCKET NUMBER: PQI-002CP4

TELEPHONE: (617) 227-7400

TELEPAX: (617) 227-740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: (SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 1528 amino acids
TYPE: amino acid
TOPOLOGY: linear
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Similarity 88.0%; Pred. No. 0;
49; Conservative 102; Mismatches
DWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSST
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2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
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US-10-809-503-19
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Publication No. US20050063989A1

GENERAL INFORMATION:
APPLICANT: COMMISSARIAT A L'ENERGIE ATOMIQUE
APPLICANT: DERAND, Renaud
APPLICANT: DERAND, Renaud
APPLICANT: PARCIA, Elisabeth
APPLICANT: PROST, Anne-Lise
APPLICANT: REVILLOUD, Jean
APPLICANT: REVILLOUD, Jean
APPLICANT: NEUTION: ION CHANNEL HYBRID PROTEINS AS
FILE REFERENCE: F263US104
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## ALIGNMENTS

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CURRENT APPLICATION NUMBER: US/10/665,283
CURRENT FILING DATE: 2003-09-22
NUMBER OF SEQ ID NOS: 25
SOFTWARE: PatentIn version 3.1
SEQ ID NO 8
LENGTH: 1947
TYPE: PRT
ORGANISM: Homo sapiens
US-10-665-283-8
                                                                                                                                        181 LLLIQLVLSCFSDRSPLFSETIHDFNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
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Sequence 1, Application US/10665283
; Publication No. US20050063989A1
; GENERAL INFORMATION:
; APPLICANT: COMMISSARIAT A L'ENERGIE ATOMIQUE
; APPLICANT: DERAND, Renaud
; APPLICANT: PROST, Anne-Lise
; APPLICANT: REVILLOUD, Jean
; APPLICANT: VIVAUDOU, Michel
; TITLE OF INVENTION: ION CHANNEL HYBRID PROTEINS AS
; FILE REFERENCE: F263US104
; CURRENT APPLICATION NUMBER: US/10/665,283
; CURRENT APPLICATION NUMBER: US/10/665,283
; CURRENT FILING DATE: 2003-09-22
; NUMBER OF SEQ ID NOS: 25
; SOFTWARE: Patentin version 3.1
; EQ ID NO 1
; LENGTH: 1927
; TYPE: PRT
ORGANISM: Homo sapiens
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  98.6%;
  Score 9873;
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Sequence 6, Application US/10665283
; Sequence 6, Application US/10665283
; Publication No. US20050063989A1
; GENERAL INFORMATION:
; APPLICANT: COMMISSARIAT A L'ENERGIE ATOMIQUE
; APPLICANT: GARCIA, Elisabeth
APPLICANT: PROST, Anne-Lise
; APPLICANT: PROST, Anne-Lise
; APPLICANT: VIVAUDOU, Jean
; APPLICANT: VIVAUDOU, Jean
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; APPLICANT: VIVAUDOU, Jean
; APPLICANT: POST JON CHANNEL HYBRID PROTE
; TITLE OF INVENTION NUMBER: US/10/665,283
; CURRENT APPLICATION NUMBER: US/10/665,283
; CURRENT FILING DATE: 2003-09-22
; NUMBER OF SEQ ID NOS: 25
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 6
; LENGTH: 1927
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-665-283-6
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RESULT 4 US-10-665-283-4 IS-10-665-283-4 ; Sequence 4, Application US/10665283 ; Publication No. US20050063989A1 ; GENERAL INFORMATION: ; APPLICANT: COMMISSARIAT A L'ENERGIE ATOMIQUE ; APPLICANT: DERAND, Renaud ; APPLICANT: GARCIA, Elisabeth	6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Oy 1741 SKIAVITLRHGRLCFMLRVGDLRKSMIISATIHNQVVRKTTSPEGEVVPLHQVDTPMENG 1800  1721 SKHAVITLRHGRLCFMLRVGDLRKSMIISATIHNQVVRKTTSPEGEVVPLHQVDTPMENG 1780  1721 SKHAVITLRHGRLCFMLRVGDLRKSMIISATIHNQVVRKTTSPEGEVVPLHQVDLPMENG 1780  OY 1801 VGGNGIFLVAPLIIYHVIDSNSPLYDLAPSDLHHHQDLEIIVILEGVVETTGITTQARTS 1860	21 LLFANVWWLIAFAHGDLYAYMEKGITDLAPYPYDVPDYAGEGTNVPCVTSIHSFSSAFLF	Oy 1501 DKGEIQEYGAPSDLUQRGLEYSNAKDAGLVGGGGGGMLSRKGIIPEEYVLTRLAEDPAE 1560	1381 SGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALLPDKLDHECAEGGENLSVGQRQLVCL 144  1381 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 150  1441 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 150  1441 ARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 150	1301 GCGLENNI DEGGOSCOPENWITT ELANI EDEGGE DEGGENI SUGGODOLUC. 144	1141 1141 1201 1201	21 ALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKEL 108

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APPLICANT: PROST, Anne-Lise
APPLICANT: REVILLOUD, Jean
APPLICANT: VIVAUDOU, Michel
TITLE OF INVENTION: ION CHANNEL HYBRID PROTEINS AS
FILE REFERENCE: F263US104
CURRENT APPLICATION NUMBER: US/10/665,283
CURRENT FILING DATE: 2003-09-22
NUMBER OF SEQ ID NOS: 25
NUMBER OF SEQ ID NOS: 25
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 1891
TYPE: PRT
ORGANISM: Homo sapiens
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APPLICANT: Burgess et al.
APPLICANT: Burgess et al.
TITLE OF INVENTION: NO. US20040039163A1el Pro
FILE REFERENCE: 21402-099
CURRENT APPLICATION NUMBER: US/09/939,853A
CURRENT APPLICATION NUMBER: 60/228,191
PRIOR APPLICATION NUMBER: 60/267,300
PRIOR FILING DATE: 2000-08-25
PRIOR APPLICATION NUMBER: 60/267,300
PRIOR FILING DATE: 2001-02-08
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-03-20
PRIOR FILING DATE: 2001-03-20
PRIOR FILING DATE: 2001-03-20
PRIOR FILING DATE: 2001-03-20
NUMBER OF SEQ ID NOS: 159
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 86
LENGTH: 1531
TYPE: PRT
ORGANISM: Homo sapiens
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US-09-939-853A-86
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Best Local Similarity
Matches 1531; Conserv
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; Sequence 6, Application US/10667891
; Publication No. US20040171024A1
; GENERAL INFORMATION:
; APPLICANT: ROTH, CHARLES W.
APPLICANT: BREY, PAUL T.
; APPLICANT: BREY, PAUL T.
; APPLICANT: GRAILLES, MARINE
                                                                                                                RESULT 6
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; APPLICANT: RZHETSKY, ANDREY
; TITLE OF INVENTION: MULTIDRUG RESISTANCE PROTEINS IN DROSOPHILA AND
; TITLE OF INVENTION: ANDPHELES
; FILE REFERENCE: 03495.0294-00000
; CURRENT APPLICATION NUMBER: US/10/667,891
; CURRENT FILING DATE: 2003-09-23
; PRIOR APPLICATION NUMBER: 60/413,469
PRIOR FILING DATE: 2002-09-26
; NUMBER OF SEQ ID NOS: 76
; SOFTWARE: Patentin Ver. 3.2
; SEQ ID NO 6
; LENGTH: 1531
; TYPE: PRT
; ORGANISM: Homo sapiens
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                                                         SLRENILFGCQLEEPYYRSVIQACALLFDLEILFSGDRTEIGEKGVNLSGGGKQRVSLAR
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APPLICANT: ROTH, CHARLES W.
APPLICANT: BREY, PAUL T.
APPLICANT: HOLM, INGE
APPLICANT: HOLM, INGE
APPLICANT: GRAILLES, MARINE
APPLICANT: RZHETSKY, ANDREY
TITLE OF INVENTION: MULTIDEN RESISTANCE PRO
TITLE OF INVENTION: MULTIDEN CONTROL
CURRENT APPLICATION NUMBER: US/10/807,466
CURRENT APPLICATION NUMBER: 10/667,891
PRIOR FILING DATE: 2004-03-24
PRIOR FILING DATE: 2003-09-23
PRIOR FILING DATE: 2003-09-23
PRIOR FILING DATE: 2003-09-26
NUMBER OF SEQ ID NOS: 139
SOFTWARE: PATENTIN Ver: 3.2
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; SEQ ID NO 6
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                                                                              AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV
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APPLICANT: EPIDAUROS Biotechnologie Aktiengesellschaft
TITLE OF INVENTION: Means and methods for improved treatment of or FILE REFERENCE: F2285PCT-1
CURRENT APPLICATION NUMBER: US/10/484,577
CURRENT FILING DATE: 2004-01-22
PRIOR APPLICATION NUMBER: PCT/EP 02/08220
PRIOR FILING DATE: 2002-07-23
PRIOR FILING DATE: 2002-07-23
PRIOR APPLICATION NUMBER: EP 01 11 7608.8
PRIOR APPLICATION NUMBER: EP 02011710.7
PRIOR APPLICATION NUMBER: EP 02011710.7
PRIOR APPLICATION NUMBER: EP 02011710.7
PRIOR PILING DATE: 2002-05-24
NUMBER OF SEQ ID NOS: 683
SOFTWARE: Patentin version 3.1
SEQ ID NO 678
LENGTH: 1531
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US-10-484-577-678
; Sequence 678, Application US/10484577
Chirarion No. US20050032724A1
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Publication No. US20050181375A1

GENERAL INFORMATION:
APPLICANT: Aziz, Natasha
APPLICANT: Zlotnik, Albert
ITILE OF INVENTION: NOVEL METHODS OF DIAGNOSIS OF METASTATIC CANCER, COMPOSITIONS AND TITLE OF INVENTION: NOVEL METHODS OF SCREENING FOR MODULATORS OF METASTATIC CANCER

PILE REFERENCE: £11e
CURRENT PILING DATE: 2004-01-12
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SOFTWARE: Patentin version 3.2
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LENGTH: 1531
TYPE: PRT
ORGANISM: Homo Sapiens
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CURRENT APPLICATION NUMBER: US/09/939,853A
CURRENT TILING DATE: 2001-08-27
PRIOR APPLICATION NUMBER: 60/228,191
PRIOR FILLING DATE: 2000-08-25
PRIOR FILLING DATE: 2000-08-25
PRIOR APPLICATION NUMBER: 60/267,300
PRIOR FILLING DATE: 2001-02-08
PRIOR APPLICATION NUMBER: 60/269,961
PRIOR APPLICATION NUMBER: 60/277,337
PRIOR FILLING DATE: 2001-02-20
PRIOR FILLING DATE: 2001-03-20
VINBER OF SEQ ID NOMBER: 60/277,337
PRIOR FILLING DATE: 2010-03-20
VINDER OF SEQ ID NOS: 159
SOFTWARE: Patentin Ver. 2.1
LENGTH: 1515
TYPE: PRT
ORGANISM: Homo sapiens
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Matches 1515
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TITLE OF INVENTION: No. U
FILE REFERENCE: 21402-099
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nes 1515; Conserv
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No. US20040039163A1
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RESULT 12
US-10-618-281-42
; Sequence 42, Application US/10618281
; Publication No. US20040219609A1
; GENERAL INFORMATION:
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APPLICANT: Estell, David A.

APPLICANT: Lyons, Eric H.

APPLICANT: Lyons, Eric H.

APPLICANT: Yao, Jian

TITLE OF INVENTION: Methods for Modulating Proteins Nc

TITLE OF INVENTION: Previously Known as Proteases

FILE REFERENCE: GC773-2

CURRENT APPLICATION NUMBER: U$/10/618,281

CURRENT APPLICATION NUMBER: U$ 60/395,325

PRIOR APPLICATION NUMBER: U$ 65/395,325

PRIOR FILING DATE: 2002-07-12

NUMBER OF SEQ ID NOS: 92

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 42

LENGTH: 1515

TYPE: PRT

ORGANISM: Homo sapiens
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RESULT 13
US-10-408-765A-1718
(Sequence 1718, Application US/10408765A)
Publication No. US20040101874A1
(Publication No. US20040101874A1
(Publication No. US20040101874A1
(Publication No. US20040101874A1
(Publication No. US20040101874A1
(Publication Fahy, Soumitra S. APPLICANT: Fahy, Eoin D. Padford W. APPLICANT: Taylor, Steven W. APPLICANT: Taylor, Steven W. APPLICANT: Glenn, Gary M. APPLICANT: Warnock, Dale E. FIITLE OF INVENTION: TARGETS FOR THERAPEUTIC INTERVENTION TITLE OF INVENTION: TARGETS FOR THERAPEUTIC INTERVENTION FILE REFERENCE: 660088.465
(CURRENT FILING DATE: 2003-04-04
NUMBER OF SEQ ID NOS: 3077
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Query Match 69.9%; Score 7002.5; DB 3; Length 1528; Best Local Similarity 88.0%; Pred. No. 0; Matches 1349; Conservative 102; Mismatches 75; Indels 7; Gaps 5; Matches 1349; Conservative 102; Mismatches 75; Indels 7; Gaps 5;  Qy 1 MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLTWVPCFYLWACFPFYFLYLSRH 60	PRIOR FILING DATE: 2001-02-20 PRIOR APPLICATION NUMBER: 60/277,337 PRIOR FILING DATE: 2001-03-20 NUMBER OF SEQ ID NOS: 159 SOFTWARE: Patentin Ver. 2.1 SEQ ID NO 88 LENGTH: 1528 TYPE: PRT ORGANISM: Mus musculus US-09-939-853A-88	APPLICANT: Burgess et al.  TITLE OF INVENTION: No. US20040039163A1el Proteins and Nucleic Acids Encoding Same FILE REFERENCE: 21402-099 CURRENT APPLICATION NUMBER: US/09/939,853A CURRENT FILING DATE: 2001-08-27 PRIOR APPLICATION NUMBER: 60/228,191 PRIOR FILING DATE: 2000-08-25 PRIOR APPLICATION NUMBER: 60/267,300 PRIOR APPLICATION NUMBER: 60/267,300 PRIOR APPLICATION NUMBER: 60/267,300 PRIOR APPLICATION NUMBER: 60/267,300 PRIOR APPLICATION NUMBER: 60/267,300 PRIOR APPLICATION NUMBER: 60/267,300	RESULT 14 US-09-939-853A-88 ; Sequence 88, Application US/09939853A ; Publication No. US20040039163A1 ; GENERAL INFORMATION:	Qy 1327 GRTGAGKSSLTLGLFRINESAEGBIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGSLRM 1386	OY  1207 GNCIVLFAALFAVISRHSLSAGLVGLSVSTAGVETYLNWLVRMSSEMETNIVAVERLKE 1266 [	859 MKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQBHTKVRLSVYGALGISQ 1027 GIAVFGYSMAVSIGGILASRCLHVDLHSILRSPMSFFERTPSGNLVNRPSKELDTVDSM
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; TYPE: PRT ; ORGANISM: Homo sapiens  US-10-618-281-63  Query Match Best Local Similarity 81.4*; Pred: No. 0; Matches 1229; Conservative 17; Mismatches 57; Indels 207; Gaps 10;  Qy 22 WNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRHDRGYIQMTPLNKTKTALGFLL 81	US-10-618-281-63  Sequence 63, Application US/10618281  Publication No. US20040219609A1  APPLICANT: Day, Anthony G. APPLICANT: Estell, David A. APPLICANT: Lyons, Eric H. APPLICANT: Lyons, Eric H. APPLICANT: Lyons, Eric H. APPLICANT: Yao, Jian ITILE OF INVENTION: Methods for Modulating Proteins Not ITILE OF INVENTION: Previously Known as Proteases FILE REFERRNCE: GC773-2  CURRENT APPLICATION NUMBER: US/10/618,281  CURRENT FILING DATE: 2003-07-11  PRIOR APPLICATION NUMBER: US 60/395,325  PRIOR FILING DATE: 2002-07-12  NUMBER OF SEQ ID NOS: 92  SOFTWARE: FastSEQ for Windows Version 4.0  LENGTH: 1303	Qy       1439 CLARALLEKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVI 1498	Qy 1379 LFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLV 1438 	Qy 1319 GGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKTTIIPQDPV 1378 	Qy 1259 VAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTIN 1318	
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	682 CGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAMTQNDSLRENTLFGCQLEEPYYRSVI 741  582 CGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAMTQNDSLRENTLFGCQLEEPYYRSVI 641  742 QACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDDPLSAVDAH 801  [	562 LCTFAVYVTIDENNILDAQTAFVSLALFNILFPLNILFMVISSIVQASVSLKRLRIFLS	502 IKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVCTPFLVA 	442 NMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKONR 	382 HOYFHICFVSGWRIKTAVIGAVYRKALVITNSARKSSTVGEIVNLMSVDAQRFMDLATYI 	: 

Search Job tir	рь	Ş	Дb	Ş	Ъ
Search completed: December 15, 2005, 15:47:17 Job time : 170.491 secs	1294 YSMAKDAGLV 1303	1522 YSMAKDAGLV 1531	1234 LETDDLIQSTIRTQFEDCTVLTIAHRINTIMDYTRVIVLDKGBIQEYGAPSDLLQQRGLF 1293	1462 LETDDLIQSTIRTQFEDCTVLTTAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLF 1521	1174 SLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVD 1233

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Title: Perfect score:

Scoring table:

336, App 250, App 250, App 2910, Ap 300, App 1150, Ap 2500, App 1150, App 90, App 90, App 197, App 197, App 197, App 198, App 198, App 2686, Ap 2686, Ap 2686, Ap 2686, Ap 2686, Ap 2686, Ap 2686, Ap 2686, Ap 2686, Ap 2686, Ap

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Listing first 45 summaries
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US-10-613-744-14
US-10-995-561-967
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US-10-793-626-326
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Sequence 968 App
Sequence 24, Appl
Sequence 527, App
Sequence 526, Appl
Sequence 969, App
Sequence 967, App
Sequence 11, Appl
Sequence 13, Appl
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US-10-995-561-968

US-10-995-561-968

Sequence 968, Application US/1099561

; Publication No. US20050272054A1

; GENERAL INFORMATION:
 APPLICANT: CARGILL, Michele et al.
 APPLICANT: CARGILL, Michele et al.
 TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
 TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPONSE, METHODS OF
 TITLE OF INVENTION: DETECTION AND USES THEREOF
 FILTE OF INVENTION: DETECTION AND USES THEREOF
 FILE REFERENCE: CL001559
 CURRENT APPLICATION NUMBER: US/10/995,561
 CURRENT FILING DATE: 2004-11-24

NUMBER OF SEQ ID NOS: 85702
 SOFTWARE: FRATSEQ for Windows Version 4.0

; SEQ ID NO 968
 LENGTH: 1023
 TYPE: PRT
 ORGANISM: Homo Bapiens
 US-10-995-561-968
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Score

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APPLICANT: Squillace, Rachel
APPLICANT: Weiner, Michael P.
TITLE OF INVENTION: Immortalized Human Tuberous Sclerosis Null
TITLE OF INVENTION: Angiomyolipoma Cell and Method of Use Thereof
FILE REFERENCE: 24318-502
CURRENT APPLICATION NUMBER: US/11/090,439
CURRENT APPLICATION NUMBER: US/11/090,439
CURRENT FILING DATE: 2005-03-25
PRIOR APPLICATION NUMBER: 60/556,344
PRIOR FILING DATE: 2004-03-25
NUMBER OF SEQ ID NOS: 62
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 24
LENGTH: 1581
TYPE: PRT
COCGANISM: Homo sapiens
US-11-090-439-24
                                                                                                                                                                                                                                                                                                 RESULT 2
US-11-090-439-24
; Sequence 24, Application US/11090439
; Publication No. US20050266442A1
; GENERAL INFORMATION:
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Pred.
2115; DB 7;
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                                                                                            AEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSSSS
                                                                                                                           Q----AGILELLRDDKRTVVLVTHKLQYLPHADWIIAMKDGTIQREGTLKDFQRSECQL
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                             DISRHHNSTAELQKAEAKKEETWKLMEADKA-----QTGQVKLSVYWDYMKAIGLFISFL
                                                                                                                                             PTPQGPASKYQAVPLRVVNRKRPAREDCRGLTGPLQSLVPSADGDADNCCVQIMGGYFTW
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                                                             FEHWKTLMN-RQDQELEKETVT----ERKATEPPQG-----
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-LQDEEEEEEAAESEEDDNLSSMLHQRAEIPWRACAKYLSSAGILLLSL
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	Db K	Qy 87 ADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLATFLIQLERRKGVQSSG 136
1032   TSOCIANEGYRANNYSIAMSUNGITURELY	5 B 8	Qy 32 CFONTVLWWVPCFYLWACFPFYFL-YLSRHDRGYIOMTBLNKTKTALGFLLWIVCW 86
UTGQVKLSVYWDYMKALGLEISEL	B 8	Query Match 21.0%; Score 2101.5; DB 6; Length 1588; Best Local Similarity 31.8%; Pred. No. 1.4e-145; Matches 527; Conservative 305; Mismatches 564; Indels 263; Gaps 38;
163 AEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSG	Ωy	; LENGTH: 1588 ; TYPE: PRT ; ORGANISM: Homo sapiens US-10-995-561-527
808 ENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAF 862	ОУ	CURRENT FILING DATE: 2004-11-24  NUMBER OF SEQ ID NOS: 85702  SOFTWARE: FastSEQ for Windows Version 4.0  SEQ ID NO 527
748 PDLEILPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDDPLSAVDAHVGKHIF 807    :      :   : :   :  :  :  :  :  : : : : : : :	ру	TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPONSE, METHODS OF TITLE OF INVENTION: DETECTION AND USES THEREOF; FILE REFERENCE: CURRENT APPLICATION NUMBER: US/10/995.561
701	Db Qy	; Publication No. US20050272054A1 ; GENERAL INFORMATION: ; APPLICANT: CARGILL, Michele et al. ; TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
654 ARSDPPILNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVBG 700    :         :	QY V	संश
631ERRPVKDGGGTN-SITVRNATFTW 653	Db Oy	Cy 1496 RYLVLDKOBIQEYGAPSDILQQR-GLFYSMAK 1526
	Db	1487
	Q	1436 QLVCLARALLRKTKILVLDBATAAVDLETDDLIQSTIRTQFBDCTVLTIAHRLNTIMDYT
515 LKLYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDEN 574           ; ;   ;   ; ;             ;	ρ <b>Q</b>	Qy 1376 DPVLFSGSLRWNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQR 1435         ::     :  :  :
455 LYLLWINLGPSVLAGVAVMVLMVPVNAVMANKTKTYQVAHMKSKDNRIKLMNBILNGIKV 514 :   :            :: :            :: :	Qy dd	Qy 1316 TINGGEKVGIVGRTGAGKSSLTLGLFRINESABGEIIDGINIAKIGLHDLRFKITIIPQ 1375  :  :  :  :          :: :             :: :
397 TAVIGAVZKALVITNSARKSSTVGEIVNIMSVDAQRFMDIATYINMIWSAPLQVILA 454  :  :  :  :  :      :  :  :  :  :  :  :	P &	Qy 1262 ERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINV 1315
354NDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIK 396	B 8	Qy 1204 ECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAV 1261 
296 EVEALIVKSPQ-KEWNESLEKVLYKTFGPYELMSFFFKAIHDLMMFSGPQILKLLIKFV- 353    :	р <i>Q</i>	Qy 1144 ESVSRSPVYSHFNETLLGVSVIRAFEBQERFIHQSDLKVDENQKAYYPSIVANRWLAVRL 1203 : :             :   :
239 SDLWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANE 295	dg dd	Qy 1084 DSMIPEVIKMFMGSLFNVIGACIVILLATDIAAIIIPPLGLIYFFVQRFYVASSRQLKRL 1143
190 CFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEG 238     ;   ;   ;   ;   ;   ;   ;   ;   ;	₽ <i>Q</i>	Qy 1024 ISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTDSGNLVNRFSKELDTV 1083
137 IMLTEWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFSLLLIQLVLS 189 	Qy da	QY 978 SIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALG 1023 
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Sequence 26, Application US/11090439
Publication No. US20050266442A1
GENERAL INFORMATION:
APPLICANT: Squillace, Rachel
APPLICANT: Weiner, Michael P.
TITLE OF INVENTION: Ammortalized Human Tuberous Sclerosis Null
TITLE OF INVENTION: Angiomyolipoma Cell and Method of Use Thereof
FILE REFERENCE: 24318-502
CURRENT PRICATION NUMBER: US/11/090,439
CURRENT PRICATION NUMBER: 60/556,344
PRIOR APPLICATION NUMBER: 60/556,344
PRIOR FILING DATE: 2004-03-25
PRIOR FILING DATE: 2004-03-25
INUMBER: OF SEQ ID NOS: 62
SOPTWARE: Patentin Ver. 2.1
SEQ ID NO 26
LENGTH: 1581
TYPE: PRT
ORGANISM: Homo sapiens
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US-11-090-439-26
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Matches
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Local Similarity 31.7%; Pred. No. 1.7e-145;
hes 524; Conservative 306; Mismatches 567; Indels 254
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CFSDRSPLFSET----HDENPCPESSASFL-----SRITFWWITGLIVRGYRQPLEGS
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                                                                               IMLTEWLVALVCALAILRSKIMTALKEDAQVDLFRDITF-----YVYFSLLLIQLVLS
                                                                                                                                             ADLFYSFWERSRGIFLAPV-----FLVSPT----LLGITTLLATFLIQLERRKGVQSSG
                                                                                                                                                                            CFVDALNVVPHVFLLFITFPILFIGWGSQSSKVHIHHS-----TWLHFPGHNLRWILTF
                                                                                                                                                                                                             CFQNTVLVWVPCFYLWACFPFYFL-YLSRHDRGYIQMTPLNKTKTALGF----LLWIVCW 86
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                                                                                                                MLLFVLVCEIAEGILSDGVTESHHLHLYMPAGMAFMAAVTSVV--YYHNIETSNFPKLLI
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                   SVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLE 1204
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   DTTQLPLLSHFAETVEGLTTIRAFRYEARFQQKLLEYTDSNNIASLFLTAANRWLEVRME
                                                                QHÍPSTLECLSRSTLLCVSÁLAVÍSYVÍPVFLVALLPLAVVCYFIQKYFRVASRDLQQLD 1192
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                                                                                  SMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRLE 1144
                                                                                                                              ---VLCLVTSVTVEWTGLKVAKRLHRSLLNRIILAPMRFFETTPLGSILNRFSSDCNTID 1132
                                                                                                                                                SQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVD
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                                                                                                                                                                                                                          IFLEMCNHVSALASNYWLSLWTDDPIV-----NGTQEHT-----KVRLSVYGALGI 1024
                                                                                                                                                                                                                                                          ------LQDEEEEEEAAESEEDDNLSSMLHQRAEIPWRACAKYLSSAGILLLSLL 1015
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Qy 296 EVEALIVKSPQ-KEWNPSLFKVLYKTPGPYFLMSFFFKAIHDLMMFSGPQIIKLLIKFV- 353	Qy         190 CFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEG 238           b	Db 80 MLĹFVLVCĖIAEĠĹLSDGÝTESHHLHĹYMĖAGMAFMANTSVVYYHNIĖTSNFPKLLI 137  Qy 137 IMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFSLLLIQLVLS 189	PFYFL-YLSRHDRGYIQMTPLNKTKTALGFLLWIVCW 8        :   :	Query Match 13.4%; Score 1341.5; DB 6; Length 1404; Best Local Similarity 27.8%; Pred. No. 5e-90; Matches 369; Conservative 242; Mismatches 473; Indels 243; Gaps 34;	; LENGTH: 1404 ; TYPE: PRT ; ORGANISM: Homo sapiens US-10-995-561-526	CURRENT FILENGENEES: 0004-11-24 ; CURRENT FILING DATE: 2004-11-24 ; NUMBER OF SEQ ID NOS: 85702 ; SOFTWARE: FastSEQ for Windows Version 4.0 ; SEQ ID NO 526	; TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPONSE, METHODS OF ; TITLE OF INVENTION: DETECTION AND USES THEREOF ; FILE REFERENCE: CLOUDES. HELD AND USES THEREOF . CIDERANT ADDITIONATION OF THE PROPERTY ADDITIONATION OF THE PROPERTY ADDITIONATION OF THE PROPERTY ADDITIONATION OF THE PROPERTY ADDITIONATION OF THE PROPERTY ADDITIONATION OF THE PROPERTY ADDITIONATION OF THE PROPERTY ADDITIONATION OF THE PROPERTY ADDITIONATION OF THE PROPERTY ADDITIONATION OF THE PROPERTY ADDITIONATION OF THE PROPERTY ADDITIONATION OF THE PROPERTY ADDITIONATION OF THE PROPERTY ADDITIONATION OF THE PROPERTY ADDITIONAL PROPERTY	; Publication No. US20050272054A1 ; GENERAL INFORMATION: ; APPLICANT: CARGILL, Michele et al. ; TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH	ESULT 5	Qy 1497 VIVLDKGEIQEYGAPSDLLQQR-GLFYSMAK 1526      :      :    :    :    :    :    :	Qy 1437 LVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTR 1496 	Qy 1377 PVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQ 1436       :     :  :  :	Qy 1317 INGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQD 1376  :  :  :	Qy 1263 RLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVT 1316	Qy 1205 CVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAVE 1262 
RESULT 6 US-10-995-561-969 ; Sequence 969, Application US/10995561	OY 1144 ESVSKEPVYSHKNETILIGVSVKAPKEGEKFINGSDLKUDENQKAYPSIVAMFMAVRI 1203	1084 DSMIPEVIKMEMGSLENVIGACIVILLATPIAAIIIPPLGLIYEFYQRFYVASSRQLKRL 	Qy 978 SIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALG 1023	Qy 923 DISRHHNSTABLQKABAKKEETWKLMBADKAQTGQVKLSVYWDYMKAIGLFISFL 977	Qy 863 AEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSG 922     :  :   :   :   :   :	QY 808 ENVIGEKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAF 862	Qy 748 PDLEILPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDDPLSAVDAHVGKHIF 807   ::      : :  :  :  : :  : :: :: ::  : :: :	Qy 701	Qy 654 ARSDPPTLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEG 700	Qy 631ERRPVKDGGGTN-SITVRNATFTW 653	Qy 575 NILDAQTAFVSLALFNILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELBPDSI 630	Qy 515 LKLYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVCTPFLVALCTEAVYVTIDEN 574          :: : : : :                 : :: Db 509 LKLYAWENIFRTRVETTRRKEMTSLRAFAIYTSISIFMNTAIPIAAVLITFVGHVSFFKE 568	Qy 455 LYLLWILNIGPSVLAGVAVVVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKV 514	Qy 397 TAVIGAVYRKALUITNSARKSSTVGEIVNLMSVDAQREMDLATYINMIWSAPLQVILA 454  :  -  -  -  -  -  -  -  -  -  -  -  -  -	Qy 354NDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIK 396

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; Publication No. US20050272054A1
; GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: DETECTION AND USES THEREOF
FILE REFERENCE: CL001559
; CURRENT APPLICATION NUMBER: US/10/995,561
; CURRENT APPLICATION NUMBER: US/10/995,561
; CURRENT FILING DATE: 2004-11-24
; NUMBER OF SEQ ID NOS: 85702
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 969
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US-10-613-744-14
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                                    CURRENT APPLICATION NUMBER: US/10/613,744
CURRENT FILING DATE: 2003-07-03
PRIOR APPLICATION NUMBER: US/09/275,252
PRIOR FILING DATE: 1999-03-24
PRIOR APPLICATION NUMBER: US 09/045,529
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: US 09/054,347
PRIOR PILING DATE: 1998-04-02
PRIOR APPLICATION NUMBER: US 09/054,347
PRIOR PILING DATE: 1998-04-02
PRIOR APPLICATION NUMBER: WO PCT/US99/06307
PRIOR FILING DATE: 1999-03-22
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                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 14, Application US/10613744 Publication No. US20050272093A1
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Best Local Similarity 50.8%;
                                                                                                                                                                                                                                              APPLICANT: The Rockefeller University
TITLE OF INVENTION: Assays for Screening Compounds Which Interact With
TITLE OF INVENTION: Cation Channel Proteins, Mutant Prokaryotic Cation
TITLE OF INVENTION: Channel Proteins, and Uses Thereof
FILE REFERENCE: 018512-002901US
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                        NUMBER
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                        SEQ ID NOS: 42
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Ver.
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TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: GENETIC POLYMORPHISMS AND DRUG RESPON:
TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPON:
TITLE OF INVENTION: DETECTION AND USES THEREOF
FILE REFERENCE: CL001559
CURRENT APPLICATION NUMBER: US/10/995,561
CURRENT FILING DATE: 2004-11-24
NUMBER OF SEO ID NOS: 85702
SOPTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 967
LENGTH: 268
                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-995-561-967; Sequence 967, Application US/10995561; Publication No. US20050272054A1; GENERAL INFORMATION:
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-613-744-14
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                                                                                                                                                                                                                               ; ORGANISM: Homo sapiens US-10-995-561-967
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Best Local Similarity
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Best Local Similarity
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1384 LRWNLDPFSQYSDEEVWTSLELAHLKDFVSALFDKLDHECAEGGENLSVGQRQLVCLARA 1443
                                                                        1324 GIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGS 1383
                                                                                                                          1264 LKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKV 1323
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CVTSIHSFSSAFLFSIEVQVTIGFGGRMVTEECPLAILILIVQNIVGLMINAIMLGCIFM 1726
                                             GIVGRTGAGKSSLASGLLRLQEAAEGGIWIDGVPIAHVGLHTLRSRISIIPQDPILFPGS
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                                                                                                                                                                  Score 799; DB 6; L
Pred. No. 2.1e-51;
56; Mismatches 61;
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Pred. No. 3.6e-57;
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                                                                                                                                                                                                Length 268;
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RESULT 10
US-10-793-626-326
; Sequence 326, Application US/10793626
; Publication No. US20050255478A1
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US-10-613-744-13
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US-10-613-744-13
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CURRENT FILING DATE: 2003-07-03
PRIOR APPLICATION NUMBER: US/09/275,252
PRIOR FILING DATE: 1999-03-24
PRIOR APPLICATION NUMBER: US 09/045,529
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: US 09/054,347
PRIOR APPLICATION NUMBER: US 09/054,347
PRIOR FILING DATE: 1998-03-20
PRIOR APPLICATION NUMBER: WO PCT/US99/06307
PRIOR FILING DATE: 1999-03-22
NUMBER OF SEQ ID NOS: 42
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Best Local Similarity
Matches 149; Conserv
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APPLICANT: The Rockefeller University
TITLE OF INVENTION: Assays for Screening Compounds Which Interact With
TITLE OF INVENTION: Cation Channel Proteins, Mutant Prokaryotic Cation
TITLE OF INVENTION: Channel Proteins, and Uses Thereof
FILE REFERENCE: 018512-002901US
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1564 RTRERRARFVSKKGNCNVAHKNIREQGRFL--QDVFTTLVDLKWPHTLLIFTMSFLCSWL 1621
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43.7%; Pred
77;
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Pred. No. 2.2e-50;
17; Mismatches 92;
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RESULT 11 US-10-467-657-1346

Sequence 1346, Application US/10467657 Publication No. US20050260581A1 GENERAL INFORMATION:

APPLICANT: CHIRON SPA APPLICANT: FONTANA Maria Rita APPLICANT: PIZZA Mariagrazia APPLICANT: MASIGNANI Vega

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APPLICANT: KINWERLY, WILLIAM JOHN
TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND
FILE REFERENCE: PU3480US
CURRENT APPLICATION NUMBER: US/10/793,626
CURRENT FILING DATE: 2004-03-04
PRIOR APPLICATION NUMBER: 60/164,258
PRIOR APPLICATION NUMBER: 60/164,258
PRIOR FILING DATE: 1999-11-09
NUMBER OF 520 ID NOS: 4472
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 326
LENGTH: 548
TYPE: PRT
ORGANISM: Artificial Sequence
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Best Local :
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                                                                                                                                   1429 NLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRL
                                                                                                                                                                                                               1372 IIPQDPVLFSGS1RMNL---DPFSQYSDEEVWTSLELAHLKDFVSALFDKLDHECAEGGE 1428
                                              1489 NTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLF---YSM 1524
                                                                                                                                                                                                                                                                                                                  1312 HINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKIT 1371
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                                                                                                 447
                                                                                                                                                                                           389 LVQQDNILFSDTVKENILLGRP--DATDDEVVEAAKMANAHDFISNLPNGYDTEVGERGV
                                                                                                                                                                                                                                                                                   329 DINLTINKGETVAFVGMSGGGKSTLINLIPRFYDVTQGEILIDHHNVKDFLTGSLRNQIG
                                                                                                                                                                                                                                                                                                                                                                               279 ASMDRVFQLMDEDYDIKNGIGAQPIKISK------GQIDLKHVSFKYNENEKEVLH
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Similarity 27.1%;
STITHADRIVVMENGRIVETGTHQQLINKRGAYEHLYSI
                                                                                              KLSGGQKQRLSTARTFLNNPPVLTLDEATSALDLESEATIQEALDVLSKDRTTLTVAHRL
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Pred. No. 4.3e-30;
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; TYPE: PRT
; ORGANISM: Neisseria
US-10-467-657-1346
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SOFTWARE: SegWin99, version 1.04
SEQ ID NO 1346
                                                                                                                                                                                                                                                                                     Sequence 148, Appublication No.
                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
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Best Local Similarity
APPLICANT: Zelder, Oskar
APPLICANT: Haberhauer, Gregor
TITLE OF INVENTION: CORYNEBACTERIUM GLUTAMICUM GENES ENCODING PROTEINS
TITLE OF INVENTION: INVOLVED IN MEMBRANE SYNTHESIS AND MEMBRANE
TITLE OF INVENTION: TRANSPORT
FILE REFERENCE: BGI-131CPCN
CURRENT FILING DATE: 2005-03-16
PRIOR APPLICATION NUMBER: US 09/603024
                                                                                                                                                                                                APPLICANT: Pompejus, Markus
APPLICANT: Kroger, Burkhard
APPLICANT: Schroder, Hartwi
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CURRENT FILING DATE: 2003-08-11
PRIOR APPLICATION NUMBER: GB-0103424.8
PRIOR FILING DATE: 2001-02-12
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TITLE OF INVENTION: GONOCOCCAL PROTEINS AND NUCLEIC ACIDS
FILE REFERENCE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1022 LGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELD
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                                                                                                                                                                         Schroder, Hartwig
Zelder, Oskar
                                                                                                                                                                                                                                                                                     Application US/11082389 o. US20050244935A1
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NUMBER OF SEQ ID NOS: 446
SEQ ID NO 148
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 1999-07-08
APPLICATION NUMBER: DE 19931550.7
FILING DATE: 1999-07-08
APPLICATION NUMBER: DE 19932134.5
FILING DATE: 1999-07-09
APPLICATION NUMBER: DE 19941379.7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: DE 19930489.0 FILING DATE: 1999-07-01 APPLICATION NUMBER: DE 19931549.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US 60/141031
FILING DATE: 1999-06-25
APPLICATION NUMBER: US 60/143262
FILING DATE: 1999-07-09
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                                                                    EGLDSEIAQGGTNVSGGORORLAIARALLKQPEIYIFDDSFSALDVSTDAALRRALSTNL 490
                                                                                        EPLKLWDRIGLVPQKSFLFSGTIASNL----RYGNEDATETQLWQALAIAQAADFVREMP 430
                                                                                                                                                                        GLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSDE----EVWTSLELAHLKDFVSALP 1416
                                                                                                                                                                                                               PGADDPVLNIVSERVAPGSTTAIIGSTGSGKTTL-IGLVPRLFDVTEGDVTVDGTDVREF 374
                                                                                                                                                                                                                                            REDLDFYLRHINVTINGGEKVGIVGRTGAGKSSLTLGLF-RINESAEGEIIIDGINIAKI 1361
                                                                                                                                                                                                                                                                                                                      LNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQET-APPSSWPQVGRVEFRNYCLRY 1302
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                                                                                                                                                                                                                                                                                                                                                                                           ENOKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLOVTTY 1243
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                                 EDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLF 1521
                                                                                                                                                                                                                                                                                     VMMAAFMFVMVPRAAVSADRIGEVLETTPSV--QAPETPAQPST--SAGEIVFNNATFAY
PDATKLIVAQRVSTIRDADQIVVLDNGEVVGIGTHTNLLNTCGTY
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Pred. No. 1e-26;
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RESULT 13 US-10-995-561-575 Sequence 575, Application US/10995561 ; Publication No. US20050272054A1

GENERAL INFORMATION:

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RESULT 14
US-10-995-561-574
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TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRUG RESPONSE, METHODS
TITLE OF INVENTION: DETECTION AND USES THEREOF
FILE REFERENCE: CL001559
CURRENT APPLICATION UMBER: US/10/995,561
CURRENT FILING DATE: 2004-11-24
NUMBER OF SEQ ID NOS: 85702
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 575
LENGTH: 701
                                                                                                                                                                                                  Sequence 574, Application US/10995561 Publication No. US20050272054A1 GENERAL INFORMATION:
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Best Local
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  FILE REFERENCE: CL001559
CURRENT APPLICATION NUMBER: US/10/995,561
CURRENT FILING DATE: 2004:11-24
NUMBER OF SEQ ID NOS: 85702
                                                                                                 APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED
TITLE OF INVENTION: CARDIOVASCULAR DISORDERS AND DRU
TITLE OF INVENTION: DETECTION AND USES THEREOF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --REDLDFYLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAK 1360
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SEQ ID NO 574
LENGTH: 808
TYPE: PRT
                                                                                                                                           TITLE OF INVENTION: ANTI-IL-9 ANTIBODY FORMULATIONS.

FILE REFERENCE: 10271-126-999

CURRENT APPLICATION NUMBER: US/11/105,268

CURRENT FILING DATE: 2005-04-12

PRIOR APPLICATION NUMBER: 60/561,845

PRIOR FILING DATE: 2004-04-12

NUMBER OF SEQ ID NOS: 60

SOFTWARE: Patentin version 3.2

SEQ ID NO 53
                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 53, Application US/11105268 Publication No. US20050260204A1 GENERAL INFORMATION:
Query Match
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Best Local
                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Allan, Christian
                                                                         TYPE: PRT
ORGANISM: Homo
                                                                                                                           LENGTH: 808
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                                1475 QFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLFYSMAK 1526
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GenCore version 5.1.6 (c) 1993 - 2005 Compugen

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                                                                                                                                                                                                                                                      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                  Score
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 US-10-665-283-8
10016
1 MALRGFCSADGSDPLWDWNV.....RSVAVAKAKPKFSISPDSLS
                                                                                                                                                                                                                 Match
                                                                                                                                                                                                                         Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2443163 seqs, 439378781 residues
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Listing first 45 s
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7002.5	7002.5	7002.5	7002.5	7037	7194	7195.5	7230.5	7500.5	7510.5	7535	7560.5	7572	7587.5	7587.5	7610	7763	7849	7849	7849	7849
69.9	69.9	69.9	69.9	70.3	71.8	71.8	72.2	74.9	75.0	75.2	75.5	75.6	75.8	75.8	76.0	77.5	78.4	78.4	78.4	78.4
1528	1528	1528	1528	1388	1417	1416	1530	1472	1472	1475	1482	1481	1482	1482	1489	1515	1531	1531	1531	1531
W	N	N	N	7	N	9	7	N	9	9	N	ຫ	œ	8	N	œ	w	w	w	N
AAY55800	AAW99895	AAW74472	AAW57487	ADJ69912	AAR96955	ADX06208	ADF56611	AAR96954	ADX06204	ADX06206	AAR96953	ABP52108	ADP23422	ADN03902	AAR96952	ADU24094	AAB03582	AAY78872	AAY55798	AAW99893
Aay55800	Aaw99895	Aaw74472	Aaw57487	Adj69912	Aar96955	Adx06208	Adf56611	Aar96954	Adx06204	Adx06206		_		Adn03902	Aar96952	Adu24094	Aab03582	Aay78872	Aay55798	Aaw99893
Murine mu	Mouse mul	Mouse mul	Murine mu	Human hea	Multi-dru	Cyclin-de	Bovine MR	Multi-dru	Cyclin-de	Cyclin-de	Multi-dru	Homo sapi	PRO polyp	Antipsori	Multi-dru	Human cys	Multidrug	Human mul	Human mul	Human mul

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Mus musculus.
Chimeric.
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                          New ion channel hybrid protein, used as electrical sensor for screening an agonist/antagonist of a membrane protein and for detecting a contaminant/pollutant in a sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Region
                                                                                                                                                         WPI; 2005-252611/26.
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1532. 1537
/note= "Hexaglycine spacer"
1538. 1947
/note= "Kirc.2 protein containing HA epitope peptide"
1651. 1659
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Query Match Best Local S Matches 1947 The present invention relates to a hybrid protein consisting essentially of the fusion of a membrane protein with an ion channel which is not naturally coupled to the membrane protein. The hybrid protein is used as an electrical sensor for screening of an agonist/antagonist of a membrane protein, drugs and for detecting a contaminant/pollutant in a sample. The invention is also useful for medical diagnostics and microorganism detection. The present sequence is a fusion protein comprising human multidrug resistance protein 1 (MRP1) and mouse inner rectifier potassium channel Kir6.2 protein containing HA epitope peptide. Sequence cal Similarity 1947; Conserv 1947 100.0%; llarity 100.0%; Conservative 0, A, Score 10016; Pred. No. 0; 0; Mismatches B 9; Length 1947;

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481 361 181 181 721 661 601 109 541 541 481 421 421 361 301 301 241 241 121 121 781 721 661 61 61 AVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIV LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK 540 GEIVNLMSVDAQREMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVN LLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRH SLRENILFGCQLEEPYYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLAR MVISSIVQASVSLKRLRIFLSHEELEDDSIERRPVKDGGGTNSITVRNATFTWARSDPPT KSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFFFYFLYLSRH LNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQND MVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPT IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS KSAYLSAVGTETWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILP 0; 0 <u>.</u> 660 120 780 780 720 660 600 600 480 420 360 300 240 240 180 60 720 0

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Db	841	MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM 900
Q	901	LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL 960
Db	901	LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL 96
δ	961	SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG 10
Db	961	SVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYG 10
δ	1021	ISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRS
Db	1021	ro-
γQ	1081	TVDSMIPEVIKMEMGSLFNVIGACIVILLATDIAAIIIPPLGLIYFFVQRFYVI
Db	1081	DTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQL 11
δ	1141	ESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYP
Db	1141	KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLA 12
Q	1201	VRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVA 12
ממ	1201	ECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEME
Q	1261	VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 13
Db	1261	VERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGG 13
γ	1321	EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIFQDFVLF 13
Db	1321	EKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLF 13
Q	1381	SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 14
DЪ	1381	SGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCL 144
Q	1441	ARALLRKTKILVLDBATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVL 15
ממ	1441	ARALLEKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLUTIMDYTRVIVL 15
Q	1501	DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLVGGGGGGGMLSRKGIIPEEYVLTRLAI
Db	1501	DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLVGGGGGGMLSRKGIIPEEYVLTRLAEDPAE 15
Q	1561	PRYRTRERRARFVSKKGNCNVAHKNIREQGRFLQDVFTTLVDLKWPHTLLIFTMSFLCSW 16
DЪ	1561	IFTMSFLCS
Q	1621	LLFAMVWWLIAFAHGDLYAYMEKGITDLAPYPYDVPDYAGEGTNVPCVTSIHSFSSAFLF 16
Db	1621	HGDLYAYMEKGITDLAPYPYDVPDYAGEGTNVPCVTSIHSF8
Q	1681	SIEVQVTIGFGGRWTEECPLAILILIVQNIVGLMINAIMLGCIFMKTAQAHRRAETLIF 17
DЬ	1681	I EVQVTI GFGGRMVTEECPLAIL ILI VQNI VGLMI NAIMLGCI FMKTAQAHRRAETLI
Q	1741	SKHAVITLRHGRLCFMLRVGDLRKSMIISATIHMQVVRKTTSPEGEVVPLHQVDIPMENG 18
DЪ	1741	SKHAVITLRHGRLCFMLRVGDLRKSMIISATIHWQVVRKTTSPEGEVVPLHQVD
ρ	1801	VGGNGIFLVAPLIIYHVIDSNSPLYDLAPSDLHHHQDLEIIVILEGVVETTGITTQARTS 18
Db	1801	FLVAPLIIYHVIDSNSPLYDLAPSDLHHHQDLEIIVILEGVVETTGITTQART
δλ	1861	YLADEILWGQRFVPIVAEEDGRYSVDYSKFGNTIKVPTPLCTARQLDEDRSLLDALTLAS 19
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                                                                                                                                Query Match
Best Local Similarity
Matches 1927; Conserv
                                                                                                                                                                                                                                    of the fusion of a membrane protein with an ion channel which is not naturally coupled to the membrane protein. The hybrid protein is used an electrical sensor for screening of an agonist/antagonist of a membrane protein, drugs and for detecting a contaminant/pollutant in a sample. invention is also useful for medical diagnostics and microorganism detection. The present sequence is a fusion protein comprising human multidrug resistance protein (MRPI) and mouse inner rectifier potass channel Kir6.2 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        New ion channel hybrid protein, used as elecan agonist/antagonist of a membrane protein contaminant/pollutant in a sample.
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                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 25; SEQ ID NO 1; 78pp; English.
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                                                                           Ionophore; biosensor; drug screening; diagnostic;
microorganism detection; potassium channel; fusion protein;
multidrug resistance protein 1; MRP1; Kir6.2; mutein.
                          Mus musculus.
Chimeric.
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Best Local Similarity 98.9%;
Matches 1925; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention relates to a hybrid protein consisting essentially of the fusion of a membrane protein with an ion channel which is not naturally coupled to the membrane protein. The hybrid protein is used as an electrical sensor for screening of an agonist/antagonist of a membrane protein, drugs and for detecting a contaminant/pollutant in a sample. The invention is also useful for medical diagnostics and microorganism detection. The present sequence is a fusion protein comprising human multidrug resistance protein 1 (MRP1) and mouse inner rectifier potassium channel Kir6.2 mutant (KR370AA) protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New ion channel hybrid protein, used an agonist/antagonist of a membrane protein contaminant/pollutant in a sample.
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WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
                                                      IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
                                                                                                         LWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEAL
                                                                                                                                                             LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
                                                                                                                                              LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
                                        IVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPD
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Ionophore; biosensor; drug screening; diagnostic; microorganism detection; potassium channel; fusion multidrug resistance protein 1; MRP1; Kir6.2; mutei
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New ion channel hybrid protein, used as electrical sensor for
an agonist/antagonist of a membrane protein and for detecting
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08-MAR-1993;
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26-OCT-1993;
20-MAR-1995;
                                                                                                                                protein acid.
This sequence is the human multidrug resistance-associated (MDR) protein. The invention relates to a method for identifying a multidrug resistant (MDR) tumour cell. Compositions and the statisting the MDR proteins can be used to treat patients with tumours displaying multidrug resistance, particularly those displaying resistance to anthracyclines, epipodophyllotoxins, vinca alkaloids, and hydrophobic drugs. The methods
                                                                                                                                        Identifying a multidrug resistant tumor cell by contacting the cell with an antibody/antigen-binding fragment - which binds to an expressed protein encoded by multidrug resistance-associated protein (MRP) nucleic
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for inhibiting/killing a MDR tumour cell can be useful for treating breast cancer, leukaemias, fibrosarcomas, cervical cancer, gliomas, thyomas, neuroblastomas and lung cancer. The MDR DNA sequences when labeled are useful as molecular probes for diagnosing multidrug resistance of a tumour (using cells from a tumour biopsy) and for designing ribozymes which are capable of cleaving a single-stranded nucleic acid encoding a protein having MRP activity. Recombinant expression vectors containing human MDR coding sequences can be transfected into a drug sensitive cell line to produce a protein in the cell which confers MDR, protecting non-resistant non-tumour cells from the effects of chemotherapeutics has major clinical importance. Cells potential therapeutic agents for their effectiveness against MDR cells and for identified agents for their effectiveness against MDR cells
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Matches 1531;
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08-MAR-1993;
26-OCT-1993;
20-MAR-1995;
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AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLK
                                                      GEIVNLMSVDAQREMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVN
                                                                                             WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
                                                                                                           WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
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                                         GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVN
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93US-00029340.
93US-00141893.
95US-00407207.
                                                                                                                                                                                                             TSEQVVPVLVKWWKKECAKTRKQPVKVVYSSKDPAQPKES
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26-OCT-1993;
20-MAR-1995;
                                                                                                                                                                                                                                   The invention provides a method for identifying a substance which is a chemosensitizer that comprises, contacting a cell transfected with nucleic acid encoding multidrug resistance-associated protein (MRP) with a therapeutic agent in vitro. The method is useful for identifying chemosensitizers which may then be used to treat cancer (especially lung cancer). The method allows the identification of chemosensitizers which do not reverse P-glycoprotein-mediated multidrug resistance. The present sequence represents a human MRP variant
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                                                                                                                                                                                                                                                                                                                                          Claim 3;
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                                            TFLIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS
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08-MAR-1993;
26-OCT-1993;
20-MAR-1995;
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This sequence represents a human multidrug resistance protein (MRP) natural variant amino acid sequence. The human MRP confers multidrug resistance, including resistance to at least two drugs selected from anthracyclines, epipodophyllotoxins and Vinca alkaloids, on a drug sensitive mammalian cell, when the protein is expressed in the cell. The multidrug resistance is not substantially reversed by chemosensitizers which reverse P-glycoprotein-mediated multidrug resistance. The MRP protein sequence can be used to generate antibodies against MRP. The MRP protein and nucleotide sequences can be used in compositions which are used to treat patients with tumours displaying multidrug resistance. The compositions and methods of the invention can be used particularly to treat breast cancer, leukaemias, fibrosarcomas, cervical cancer, gliomas, thymonas, neuroblastomas, and lung cancer. Antibodies directed against MRP can be used to inhibit the multidrug resistance of a multidrug

Sequence 1531 AA;

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The present invention relates to methods of detecting a prostate cancer-
CC associated transcript in a cell from a patient. The method comprises
CC contacting a biological sample from the patient with prostate cancer-
CC associated polymuclectides (designated PC genes) that selectively
Chybridise to a sequence that is at least 80% identical to them. The
CC prostate cancer-associated polymucleotide sequences are differentially
CC expressed in prostate tumour tissue or in prostate cancer and are derived
CC from the tissues of various organisms such as humans or other mammals
CC (e.g. mice, sheep and dogs). The methods of the invention are useful for
CC diagnosing and treating prostate cancer in mammals. The prostate cancer-
CC associated genes are useful for diagnosing or treating prostate cancer,
CC as well as for identifying modulators of prostate cancer are particularly
CC useful in gene therapy, as a vaccine or in antisense applications.

CC ABG61800-ABG61944 represent prostate cancer-associated proteins
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention describes the use of irinotecan (I) or its CC derivative for the preparation of a pharmaceutical composition for treating colorectal, cervical, gastric, lung, ovarian or pancreatic CC cancer, or malignant glioma in a subject having a genome with a variant C allele which comprises a cytochrome p450, subfamily IIIA (nifedipine CC oxidase), polypeptide 5 (CYP3A5) polymuclectide (II). (I) and (II) have CY cytostatic activity. The therapeutic applications of (I) is improved, CC since it is possible to individually treat a subject with an appropriate dosage and/or an appropriate derivative of (I). Therefore, undesirable, harmful or toxic effects are efficiently avoided. Unnecessary and CC potentially harmful treatment of those subjects who do not respond to the treatment with substances (monresponders), as well as the development of CC drug resistances due to suboptimal drug dosing can be avoided. ACR52200 CC to ACR52751 and ABM34912 to ABM35013 represent sequences used in the CC exemplification of the present invention
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Best Local Similarity
Matches 1531; Conserv
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24-MAY-2002;
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lung cancer; ovarian cancer; pancreatic cancer; malignant glioma;
variant allele; multidrug resistance protein 1; MRP1; cytostatic.
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The invention relates to the novel use of irinotecan to treat a patient suffering from cancer. This involves determining if the patient has one or more variant alleles of the UGTIA1 gene, and if the patient has one or more of such variant alleles, irinotecan is administered in an increased or decreased amount in comparison to the amount that is administered without regard to the patient's alleles in the UGTIA1 gene. The invention has cytostatic activity. A composition of the invention acts as a topoisomerase I inhibitor. The method is useful for treating a patient, an animal e.g. mouse or a human, preferably African or Asian, suffering from cancer such as colorectal, carvical, gastric cancer, lung, ovarian, pancreatic cancer or malignant glioma. The present sequence is udes in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                        Use of irinotecan to treat cancer patient by determining if patient has variant alleles of UGT1A1 gene, administering increased/decreased amounts of irinotecan based on increased/decreased levels of UGT1A1 gene product.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    irinotecan; cancer; UGTIA1; cytostatic; topoisomerase I inhibitor; colorectal cancer; cervical cancer; gastric cancer; lung cancer; covarian cancer; pancreatic cancer; malignant glioma; uridine diphosphate glycosyltransferasel member A1.
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     New use of irinotecan treating cancer in sub
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lung cancer; ovarian cancer; pancreatic cancer; malignant glioma;
multidrug resistance 1; MDR1; cytostatic; human; Cyp3A5; MRP1; MDR1;
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24-MAY-2002;
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The invention relates to the novel use of irinotecan or its derivative for the preparation of pharmaceutical compositions for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject having a genome with a variant allele which comprises a multidrug resistance 1 (MDR1) polynucleotide. A composition of the invention has cytostatic activity. The invention is useful for the preparation of pharmaceutical compositions for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject (preferably human, more preferably African or Asian) or a mouse. The present sequence is used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                           multidrug resistance 1 polynucleotide
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Query Match Best Local Sim Matches 1531;

Similarity

Score 7860; D; Pred. No. 0; O; Mismatches

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                                                                                     irinotecan; colorectal cancer; cervical cancer; gastric cancer;
lung cancer; ovarian cancer; pancreatic cancer; malignant glioma;
multidrug resistance 1; MDR1; cytostatic; human; UGT1A1; MRP1; TOP1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates ro a novel use of irinotecan or its derivative for the preparation of a pharmaceutical composition for treating colorectal, cervical, gastric, lung, ovarian or pancreatic cancer, or malignant glioma in a subject having a genome with a variant allele which comprises a multidrug resistance 1 (MDR1) polynucleotide. A composition of the invention has cytostatic activity. The present sequence is used in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New use of irinotecan for preparation of pharmaceutical compositions fo treating cancer in subject having genome with variant allele comprising multidrug resistance 1 polynucleotide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1531
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-JUL-2001; 2001EP-00117608.
24-MAY-2002; 2002EP-00011710.
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                                                                                                                                                                                                                                                                                                                                                                                       LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
                                                                                                                                                                                                                                                                                                                                                                                                        LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSD
                              AVMAMKTKTYQVAHMKSKONRIKLMNEILNGIKVLKLYAMELAFKDKVLAIRQEELKVLK
                                                                                                         AVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELLAFKDKVLAIRQEELKVLK
                                                                                                                                                 GEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLNLGPSVLAGVAVMVLMVPVN
                                                                                                                                                                                                                           WQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTV
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tive 0; Mismatches
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Search completed: December 15, 2005, 15:17:29 Job time: 185.197 secs

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           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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A;Status: nucleic acid sequence not shown
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 'MAPTRSGTGMSRGIPATPTSPSAFRTRSSCGCLVFTSGPV',50-1531 <CO1>
A;Cross references: UNIPARC:UDIO0001746CB; GB:L05528; NID:g1835658
A;Experimental source: small cell lung carcinoma cell line H69AR
A;Note: sequence extracted from NCBI backbone (NCBIP:119851); this sequence has been A;Note: sequence extracted from NCBI backbone (NCBIP:119851); this sequence has been A;Cole, S.P.C.; Deeley, R.G.
R;Cole, S.P.C.; Deeley, R.G.
A;Title: Multidrug resistance-associated protein: sequence correction.
A;Reference number: A37495; MUID:93262415; PMID:8098549
A;Accession: A37495
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A;Map position: 16p13.1-16p13.1
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology C;Superfamily: human multidrug resistance; at multidention; nucleotide binding; P-loop; transm C;Keywords: antibiotic resistance; ATP; duplication; nucleotide binding; P-loop; transm F;661-844/Domain: ATP-binding cassette homology cABC1-P;678-685/Region: nucleotide-binding motif A (P-loop)
F;788-792/Region: nucleotide-binding motif B
                                                                                                                                                                                                                                                                                                              F;1310-1503/Domain: ATP-binding cassette homology <ABC2>F;1327-1334/Region: nucleotide-binding motif A (P-loop)F;1450-1454/Region: nucleotide-binding motif B
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A;Note: sequence extracted from NCBI backbone (NCBIP:131929)
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                                                                                                     MALRGFCSADGSDPLWDWNVTWNTSNPDFTKCFQNTVLVWVPCEYLWACFPFYFLYLSRH 60
DRGYTOMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA
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Canalicular multispecific organic anion transporter - human
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Decies: 05-Feb-1999 #sequence_revision 05-Feb-1999 #text_change 09-Jul-2004
C;Accession: JE0336
R;Uchiumi, T.; Hinoshita, E.; Haga, S.; Nakamura, T.; Tanaka, T.; Toh, S.;
Biochem. Biophys. Res. Commun. 252, 103-110, 1998
A;Title: Isolation of a novel human canalicular multispecific organic anion
t.
A;Reference number: JE0336; MUID:99032812; PMID:9813153
A;Accession: JE0336
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-1527 <UCH>
A;Cross-references: UNIPROT:015438; UNIPARC:UPI0000169859; GB:AF083552
C;Superfamily: human multidrug resistance protein cMOATZ; ATP-binding casse
C;Keywords: ATP
F;1306-1499/Domain: ATP-binding cassette homology <ABC2>
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중 유 중 음 중 음 성 음 성 유왕 Query Match Best Local S Matches 871 Local Similarity 248 187 127 295 308 188 871; 67 89 7 8 EWNPSLFKVLYKTEGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPDWQGYFYT DTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEALIVKSPQK R-KPSFLKALLATFGSSFLISACFKLIQDLLSFINPQLLSILIRFISNPMGPSWWGFLVA 44.8%; Scoilarity 56.6%; Pre Conservative 261; Score 4484.5; DB 2; Pred. No. 1.5e-294; Mismatches 372; Indels Length -NASGEDEVLLGARPRP 35; Gaps 186 307 187 126 127 66 294 246

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                                                                                                                                                                          HINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKIT 1371
                                                                                                                                                                                                                                                                                                                         VGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTI
                                                                                                                                                                                                                                                          SEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLR 1311
                                                                                                                                                                                                                                                                                                                                                       SIVANRWLAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMS 125:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVNRFSKELDTVDSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQR 1131
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                                                                      IIPQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLS
                                                                                                                                        DLSLHVHGGEKVGIVGRTGAGKSSMTLCLFRILEAAKGEIRIDGLNVADIGLHDVRSQLT
                                                                                                                                                                                                                               SDLESNIVAVERVKEYSKTETEAPWVVEGSRPPEGWPPRGEVEFRNYSVRYRPGLDLVLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                   FYVASSRQLKRLESVSRSFVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYP 1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TKVRLSVYGALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGN 107:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VPKGALVAVVGPVGCGKSSLVSALLGEMEKLEGKVHMKGSVAYVPQQAWIQNCTLQENVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQNDSLRENIL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPTLNGITFS 667
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                                                                                                                                                                                                                                                                                                                                                                                                                   FYAATSROLKRLESVSRSPIYSHFSETVTGASVIRAYNRSRDFEIISDTKVDANQRSCYP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TSLRLGVYAALGILQGFLVMLAAMAMAAGGIQAARVLHQALLHNKIRSPQSFFDTTPSGR
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                                           IIPQDPILFSGTLRMNLDPFGSYSEEDIWWALELSHLHTFVSSQPAGLDFQCSEGGENLS
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C;Date: 1. S71841; ...
C;Accession: S71841; ...
R;Koenig, J.; Keppler, D.
submitted to the EMBL Data L:
A;Reference number: S71841
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$71841

multidrug resistance protein, canalicular - human C;Species: Homo sapiens (man)
C;Date: 10-Sep-1999 #sequence revision 10-Sep-1999
C;Accession: $71841; $71840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Gene: GDB:ABCC2; CMOAT; ABC; MRP2; CMRP; DJS
A;Cross-references: GDB:6089489; OMIM:601107
A;Map position: 10q24-10q24
A;Map position: multidrug resistance protein cMOAT2; ATP-binding cassette homology
C;Keywords: ATP; glycoprotein; nucleotide binding; P-loop; transmembrane protein
F;654-837/Domain: ATP-binding cassette homology <ABC1>
F;671-678/Region: nucleotide-binding motif A (P-loop)
F;1317-1510/Domain: ATP-binding cassette homology <ABC2>
F;1334-1341/Region: nucleotide-binding motif A (P-loop)
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A;Residues: 1-1545 <KOE>
A;Cross-references: UNIPARC:UPI00001746CD; EMBL:X96395; NID:g1507819; PIDN:CAA65259.1;
A;Cross-references: UNIPARC:UPI00001746CD; EMBL:X96395; NID:g1507819; PIDN:CAA65259.1;
A;Cross-references: UNIPARC:UPI00001746CD; EMBL:X96395; NID:g1507819; PIDN:CAA65259.1;
A;Reference number: S71839; MUID:96279006; PMID:8662992
A;Accession: S71840
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A;Residues: 1415-1429,'VP',1432-1455,'E',1457-1545
A;Cross-references: UNIPARC:UPI00001746CE; EMBL:X96
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                                                                                                               FYVYFSLLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQ 234
                                                                                                                                                                                                                                                                                                                                                                                           TTLLATFLIQLERRKGVQSSGIMLT-FWLVALVCALAILRSKIMTALKEDAQVDLFRDIT 174
                                                                                                                                                                                                                                                                                                                                                                                                                                        YKSRTKRSSTTKLYLAK-QVFVGFLL-ILAAIELALVLTEDSGQATVPAVRYTNPSLY-L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YLSRHDRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGI 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MDYTRVIVLDKGEIQEYGAPSDLLQQRGLFYSMAKDAGL 1530
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                                                                                                                                                                        PLILEDVWEVDEEMKTKTLVSKFETHMKRELQKARRALQRRQEKSSQQNSGARLPGLNKN
                                                                                                                                                                                                                                                                                                                                                  GTWLLVLLIQYSRQWCVQKNSWFLSLFWILSILCGTFQFQTLIRTLLQGD-NSNLAYSCL
FVSPQLLKLLISFASDRDTYLWIGYLCAILLFTAALIQSFCLQCYFQLCFKLGVKVRTAI
                                                                                                                                                                                                                PLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTRK------QPVKVVYSSKD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       35.8%; Score 3587; DB 1; 47.5%; Pred. No. 8.4e-234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---STFWNSSFLDSPEADLPLCFEQTVLVWIPLGFLWLLAPWQLLHV
                                                                                      -EDVEKKKKKSGTKKDVPKSWLMKALFKTFYMVLLKSFLLKLVND1FT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  286;
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6; Mismatches 461;
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                                                    WTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAA 1459
                                                                                                  LFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSDEEV 1399
                                                                                                                                                                     LGVSVIRAFEEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAV
                                                                                                                                                                                                                                                                                                                                                                          NVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFNETL 1159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CNHVSALASNYWLSLWT-DDPIVNGTQ----BHTKVRLSVYGALGISQGIAVFGYSMAVSI 1039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLKN
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 VDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MNSVAFIGSNLWLSAWTSDSKIFNSTDYPASQRDMRVGVYGALGLAQGIFVFIAHFWSAF
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                                                                                                                                                                                                                                                           ISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQ 1279
                                                                                                                                                                                                                                                                                                           SGLPVIRAFEHQQRFLKHNEVRIDTNQKCVFSWITSNRWLAIRLELVGNLTVFFSALMMV 1227
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                                                                                                                                                                                                                                                                                                           59 Sİ--İKFYLAKQVFVVFİLİLAAIDİSLALTEDIGQATVPPVRYTNP-IİYLCİWİLVLA 115
                                                                                                                                                                                                                                                                                                                                            64
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                                                                                                                                                                                                   LIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSDLW 242
                                                                                                                                                                                                                                      YIOMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLATFL
KFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVI 410
                                                                 VDANEEVEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQILKLLI 350
                                                                                                  DIDEGFKTRSVTSKFEAAMTKDLQKARQAFQRRLQKSQRKPEATLHGLNKKQSQSQDVLV 286
                                                                                                                                   SLNK----EDTSEQVVPVLVKN-----WKKECAKTRKQPVKVVYS-SKDPAQPKESSK 290
                                                                                                                                                                   IVLLILTAFSGPS-----DSTQTPSVTASFLSSITFSWYDRTVLKGYKHPLTLEDVW
                                                                                                                                                                                                                                                                                                                                                                              FCNS----TFWDLSLL-ESPEADLPLCFEQTVLVWIPLGFLWLLAPWQLYSVYRSRTKRS 58
                                 LEEAKKKSEKTTKDYPKSW----LIKSLFKTFHVVILKSFILKLIHDLLVFLNPQLLKLLI
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RESULT 4

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S71839

Canalicular multidrug resistance protein - rat

C;Species: Rattus norvegicus (Norway rat)

C;Species: Rattus norvegicus (Norway rat)

C;Species: Rattus norvegicus (Norway rat)

C;Species: Rattus norvegicus (Norway rat)

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C;Species: Rattus norvegicus (Norway rat)

C;Species: Rattus form, M.; Kartenbeck, J.; Spring, H.; Horie, T.; Keppler, D.

R;Buechler, M.; Koenig, J.; Brom, M.; Kartenbeck, J.; Spring, H.; Horie, T.; Keppler, D.

R;Buechler, M.; Koenig, J.; Brom, M.; Kartenbeck, J.; Spring, H.; Horie, T.; Keppler, D.

R;Buechler, M.; Koenig, J.; Brom, M.; Kartenbeck, J.; Spring, H.; Horie, T.; Keppler, D.

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R;Buechler, M.; Koenig, J.; Brom, M.; Kartenbeck, J.; Spring, H.; Horie, T.; Keppler, D.

R;Artenberge of the hepatocyte canalicular isoform of the multidrug resistance

R;Artenbeck, J.; Spring, H.; Horie, T.; Keppler, D.

R;Artenberge of the hepatocyte canalicular isoform of the multidrug resistance

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R;Artenbeck, J.; Brom, M.; Kartenbeck, J.; Spring, H.; Horie, T.; Keppler, D.

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R;Buechler, M.; Keppler, M.; Keppler, D.

R;Buechle
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F;1104-1132/Domain: transmembrane #status predicted <TM12>
F;1203-1228/Domain: transmembrane #status predicted <TM13>
F;1303-1236/Domain: ATP-binding cassette homology <ABC2>
F;1330-1337/Region: nucleotide-binding motif A (P-loop)
F;6,1007,1010,1011/Binding site: carbohydrate (Asn) (covale
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tive 301; Mismatches 47
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                                                                   VUGFVLSNALNITQTLNMLVRMTSEAETNIVAVERISEYINVENEAPM-VTDKRPPADMP
                                                                                                                                    EEQERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVISRHSLSAG 1228
                                                                                                                                                                                           HGQLLTNILRAPMRFFDTTPTGRIVNRFSGDISTVDDLLPQTLRSWMMCFFGIAGTLVMI
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A, Residues: 1-1494 <STO>
A, Cross-references: UNIPROT:Q20943;
C;Genetics:
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A;Map position: X
C;Superfamily: human multidrug resistance
                                                                          LNILPMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWAR 655
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LAMVAMVYGEAVQCSVSNTRLKEFFAAEEMSPQT----SISHGETDSAIEVENGLFSWSS
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Pred. No. 1.2e-213;
39; Mismatches 435;
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RESULT 6
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C;Species: Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #t.
C;Accession: T21219; T24002
R,Mortimore, B.
Rubmitted to the EMBL Data Library, October 1996
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                                                                                                                                                                                     NAHLKPFVKSLQDGLEHKISEGGENLRFAGSKSQKFQLNFSVGQRQLICLARALLRKTKV
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A;Reference number: Z19392
A;Accession: T21219
A;Status: preliminary; translated from GB/EMBI
A;Molecule type: DNA
A;Residues: 1-1573 <WILD-
A;Cross-references: UNIPROT: Q93552; UNIPARC: UI
A;Experimental source: clone F21G4
R;Experimental source: clone F21G4
R;Experimental source: clone F21G4
R;Experimental source: clone F21G4
R;Experimental source: clone F21G4
A;Reference number: Z19828
A;Accession: T24002
A;Status: preliminary; translated from GB/EMBI
A;Molecule type: DNA
A;Residues: 1-1573 <WIZ-
A;Cross-references: UNIPARC: UPI00000823F7; EMI
A;Experimental source: clone R07B1
C;Genetics:
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A;Map position: X
A;Introns: 21/3; 122/3; 197/3; 276/1; 654/1; 911/1; 1067/1; 1472/2; 1537/2
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding casso
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Best Local Similarity
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                           VSLKRLRIFLSHEELEDDSIERRPVKDGGGTNSITVRNATFTW--ARSDP-PTLNGITFS
                                                                                                               MLNTASPFLVALSTFATFIYIDPKNVLTPEIAFVSLTLFNQLRSPMSQVAELITQTVQVV
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VSNRRLKEFLVSEELNVEAIDHR-ARD--NNDVICLKEACLSWESAEHOPVPTLTNISFS
                                                                                                                                                FTWVCTPFLVALCTFAVYVTIDENNILDAQTAFVSLALFNILRFPLNILPMVISSIVQAS
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RESULT 7
742216
multidrug resistance-associated protein homolog MLP-1 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
C;Accession: T42216
R;Hirohashi, T:; Suzuki, H.; Ito, K.; Ogawa, K.; Kume, K.; Shimizu, T.; Sugi
Mol. Pharmacol. 53, 1068-1075, 1998
A;Title: Hepatic expression of multidrug resistance-associated protein-like
A;Reference number: Z22081; MUID:98279126; PMID:9814210
A;Accession: T42216
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LQRQLSSSSSYSGDISRHHNSTAELQKAEAKKBETWKLMEADKAQTGQVKLSVYWDYMKA
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A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-1502 <HIR>
A;Residues: 1-1502 <HIR>
A;Cross-references: UNIPROT:O88269; UNIPARC:UPI000012F57A; EMBL:AB010466; NID:g3242457,
A;Experimental source: strain Sprague-Dawley; liver
A;Experimental source: strain Sprague-Dawley; liver
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology
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290;

Score 3195.5; I Pred. No. 2.5e-2 90; Mismatches 5

525; DB 2;

Indels Length

Gaps

9

1502; 51;

LARDGAFAEFLRTYASTEQEQDAEENGVT---ALDAHVSQEVFKQVIGPSGLLQGTTRILVTHTLHVLPQADQILVLANGTIAEMGSYQDL SAVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQEL WIQEVLEACALGSDVASFPAGVHTPVGEQGMNLSGGQKQRLSLARAVYRRAAVYLMDDPL VVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEP LHRNGAL VGLLDGARQPAGEGEGEAHAAATSDDLGGFSGGGTPTRRPE VVGPVGAGKSSLLSALLGELLKVEGSVSIEGSVAYVPQEAWVQNTSVVENVCFRQELDLP LAAFLCLEEVDENGMVLSPSR-CSSKDRISIHNGTFAWSQESPECHGINLTVPQGCLLA LRIFLSHEELEPDSIERRPVKDGGGTNSITVRNATFTWARSDPPTLNGITPSIPEGALVA KSKDNRIKLMNBILNGIKVLKLYAWBLAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVC LQTLVLHQYFHICFVSGMRIKTAVIGAVYRKALVITNSARKSSTVGEIVNLMSVDAQRFM ROKASRARLTSSMLRTVRTIKSHGWECAFLERLLHIRGQELGALKTSAFLFSVSLVSFQV DLATYINMIWSAPLQVILALYLLWLNLGPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHM AIWRVFRSTFLLGTLSLVISDAFRFAVPKLLSLFLEFMGDLESSAWTGWLLAVLMFLSAC VLVKNWKKECAKTRKQPVKVVYSSKDPAQPKESSKVDANEEVEALIVKSPQKEWNPSLFK VIGFALILLYTENAAVPLWRIHRGMPQAPELLIHPTVWLTTMSFATFLIHWERKKGVRAS ALGFILMIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLATFLIQLERRKGVQSS WNQTEQEPVAYHLINLCFLRAAGSWVPPMYLWVLGPTYLLYTHRHGCCYLRMSRLFKIKM LQTLFEQQYMYRVKVLQMRLRTAITGLVYRKVLVLSSGSRKSSAAGDVVNLVSVDVQRLV VLYKTEGPYELMSFEEKAIHDLMMESGPQILKLLIKEVNDTKAPDWQGYEYTVLLEVTAC QLEREWRRN---PFFSEDSKPLNPCPEAEASFPSKAMFWWASGLLWKGYRKLLGPKDLWSLERENSSEELVS PLFSETIHDPNPCPESSASFLSRITFWWITGLIVRGYRQPLEGSDLWSLNKEDTSEQVVP WNTSNPD-----FTKCFQNTVLVWVPCFYLWACFPFYFLYLSRHDRGYIQMTPLNKTKT ----FSELPGHKGHSGM--GTPETEAFL--QPERSQRGPLLR -GVSGPGKEAKQMENGMLVTDSAGKQ 969 909 855 778 795 718 658 675 599 615 539 585 479 495 435 359 299 256 255 196 195 139 135 79 75

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A; Map position: 4R
C; Function:
A; Description: requ
C; Superfamily: human
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A; Residues: 1-1515 <OLI>
A; Cross-references: UNIPROT:P39109; UNIPARC:UPI000013A67B; EMBL:Z48179;
A; Czczypka, M.S.; Wemmie, J.A.; Moye-Rowley, W.S.; Thiele, D.J.
J. Biol. Chem. 269, 22853-22857, 1994
A; Title: A yeast metal resistance protein similar to human cystic fibros A; Teference number: A55352; MUID:94357936; PMID:7521334
A; Accession: A55352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 8
SS.1863
cadmium resistance protein YCF1 - yeast (Saccharomyces cerevisiae)
N;Alternate names: protein YD9302.11c; protein YDR135c
C;Species: Saccharomyces cerevisiae
C;Species: Saccharomyces cerevision
C;Apate: 10-Sep-1999 #sequence.
C;Date: 10-Sep-1999 #sequence.
C;Apate: 10-Sep-1999 #sequence.
C;Apacession: S51863; A55352; S50233
R;Oliver, K.; Harris, D.
Siber Diver, K.; Harris, D.
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C;Genetics:
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A; Accession: S51863
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                                                                                                                  A;Gene: SGD:YCF1; MIPS:YDR135c
A;Cross-references: SGD:S0002542; MIPS:YDR135c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTK 1449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGKSSLTWGLLRLQEATEGGIWIDGVPITDMGLHTLRSRITIIPQDPVLFPGSLRMNLD
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required for cadmium resistance human multidrug resistance protein cMOAT2, ATP-binding cassette homology
                                                                                                                                                                                               GB:L35237; NID:g556464; PIDN:AAA50353.1;
                                                                                                                                                                                                                                                                                                                                                           fibrosis
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                                                                                                            TALIYQKSLVLSNEASGLSSTGDIVNLMSVDVQKLQDLTQWLNLIWSGPFQIIICLYSL
     FRVKGFATVHGSVAYVSQVPWIMNGTVKENILFGHRYDAEFYEKTIKACALTIDLAILM
                                    WINIGPSVIAGVAVMVIMVPVNAVMAMKTKTYQVAHMKSKDNRIKIMNEIINGIKVIKIY
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                                                                                                                                                                      GGGTNSITV-RNATFTWARSD--PPTLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAE
                                                                                                                                                                                                                        TTDLVFPALTLFNLLSFPLMI I PMVLNSFIEAS VSIGRLFTFFTNEELQPDSVQRLPKVK
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440 458 380

559

754 679 694 619

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C;Keywords: ATP; nucleotide binding; P-loop; transmembrane profig 287-308/Domain: transmembrane #status predicted <TM1> F;345-36/Domain: transmembrane #status predicted <TM2> F;421-442/Domain: transmembrane #status predicted <TM2> F;446-467/Domain: transmembrane #status predicted <TM3> F;446-467/Domain: transmembrane #status predicted <TM4> F;446-467/Domain: transmembrane #status predicted <TM4> F;646-829/Domain: transmembrane #status predicted <TM6> F;646-829/Domain: ATP-binding cassette homology <ABC1> F;646-829/Domain: transmembrane #status predicted <TM7> F;995-1016/Domain: transmembrane #status predicted <TM9> F;1068-1088/Domain: transmembrane #status predicted <TM10> F;1079-1200/Domain: transmembrane #status predicted <TM10> F;1179-1200/Domain: transmembrane #status predicted <TM10> F;1179-1200/Domain: transmembrane #status predicted <TM10> F;1289-1483/Domain: transmembrane #status predicted <TM12> F;1289-1483/Domain: ATP-binding cassette homology <ABC2> F;1306-1313/Region: nucleotide-binding motif A (P-loop)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Y Match 28.3%; Score 2838; DB 1; Length 1515;
Local Similarity 40.3%; Pred. No. 4e-183;
1es 632; Conservative 295; Mismatches 495; Indels 146
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                                                                                                                                                                                                                                                                                                                                                                                                                 ASILLLEALPKKPLMPHQHIHQTLTRRKPNPYDSANIFSRITFSWMSGLMKTGYEKYLVE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DFTKCFQNTVLVWVPCFYLWACFPFYF-----LYLSRHD-----RGYIQMTPLNKTKT
                                                                                                                           ALIVKSPQKEWNPSLFKVLYKTEGPYFLMSFFFKAIHDLMMFSGPQILKLLIKFVND---
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                                                                                                                                                                                                                                                       -----NPSLSWAICRTFGSKMLLAAFFKAIHDVLAFTQPQLLRILIKFVTDYNS
----TKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTA 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----IWYSGQTGFILTLFQVITC
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RESULT 9
T20434
hypothetical protein E03G2.2 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text.
C;Accession: T20434
R;McMurray, A.
submitted to the EMBL Data Library, November 1995
A;Reference number: Z19275
A;Accession: T20434
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-1398 <WIL-
A;Cross-references: UNITROT:019048; UNIPARC:UPI000007736-
A;Experimental source: clone E03G2
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                                                                                                                                                                                                                                                                                                                                                   LCMEAGLV
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DGDKTLVGEKGISLSGGQKARLSLARAVYARADTYLLDDPLAAVDEHVARHLIEHVLGPN
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          UNIPARC: UPI0000077364;
                                                                                 #text_change
         EMBL: Z68113;
                                                                                   09-Jul-2004
         PIDN:CAA92148
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AKKEETWKLMEADKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFMCNHVS-ALASNYWLS
                                                                EENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAE
                                                                                                               NKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAFABFLRTYASTEQEQDA
                                                                                                                                   AQTAFVSLALFNILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELEPDSIERRPVKDG
                                                                                                                                                                                                      LYTNTVEIHSGSFAWDSAEARILSDIEFLAGSKELVTVVGS
                                                                                                                                                                                                              GGTNSITVRNATFTWARSDPPTLNGITFSIPBGALVAVVGQVGCGKSSLLSALLAEMDKV
                                                                                                                                                                                                                                                                        AWETAMEETIERVRDKELKMIKQSALLKTFADCLNVGAPVFVALSSFTVFVLIDPKNVLT
                                                                                                                                                                                                                                       PNIAFVSLSLFNLLRGPLMMAAELVAQTVQLVVSNKRVRTFLCEKEVDTAAIDKE-IRGE
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1055

997 804

921

878

818

728

758

698

638 489

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C;Genetics:
A;Gene: CESP:E03G2.2
A;Map position: X
A;Introns: 73/3; 113/3; 176/1; 216/1; 258/2; 384/3; 470/3; 549/1; 644/3; 757/3;
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette
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Local 5
591;
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AWELAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVCTPFLVALCTFAVYVTIDENNILD
                                                        SQTIGVAVWAGIVVMISIVPINICVSMITKRWQLRLMKYKDERIRLINEVLNGIKVVKLS
                                                                             WLNIGPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLMNBILNGIKVLKLY
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                                                                                                                                   QFANPTFLNYLILFIETPNAPLINGIGLAVGLFLAGQIKSLFMNTYFIAMTRVGAKIQTM
                                                                                                                                                                                                                                                      MESGPQILKLLIKFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTA
                                                                                                                                                                                                                                                                                                  KAPLLGTENNYGAVNLDDKDRVIVQ-----PSVIVTLWQIMKWEILGGSFIKFLSDLL
                                                                                                                                                                                                                                                                                                                                                                                   ISLGYERTLVADDVFEMDSQMDQEYLKARWKTEWLKQTEKAREKQVKLDDKRERARTGSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LALLIATNEV---RRAGIHSSGPLFCIWMLFAVAAVPEFYQWMTTGSQPELVARIDFFRY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ITTLLATELIQLERRKGVQSSGIMLTFWLVALVCALAILRSKIMTALKED--AQVDLFRD
                                                                                                                                                                                                                                                                                                                           IVRGYRQPLEGSDLWSLNKEDTSEQVVPVLVKWWKKECAKTRKQPVKV------VYSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27.3%; Score 2732; DB 2; ilarity 41.1%; Pred. No. 5.3e-176; Conservative 287; Mismatches 472;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1398;
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115 ITTLLATELIQLERRKGVQSSGIMLTFWLVA-LVCALAILRSKIMTALKEDAQVDLFRDI 173 	Query Match 25.4%; Score 2548; DB 2; Length 1478; Best Local Similarity 38.7%; Pred. No. 1.7e-163; Matches 560; Conservative 285; Mismatches 509; Indels 92; Gaps 21;	A;Gene: SPDB:SPAC3F10.11c A;Map position: 1 C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology C;Keywords: ATP; transmembrane protein	A;Residues: 1043-1286,'L',1288-1300,'Y',1302,'H',1304-1310,'H',1312-1466,'V',1468-1478	A;Reference number: Z17323; MUID:98162722; PMID:9501991 A;Accession: T43244 A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: mRNA	0	A;Status: translated from GB/EMBL/DDBJ A;Molecule type: DNA A;Residues: 1-1478 <mur> A;Cross-references: UNIPROT:010185: UNIPARC:UPI000013A189; EMBL:Z69369; PIDN:CAA93309.1;</mur>	R;Murphy, L.; Harris, D.; Barrell, B.G.; Rajandream, M.A.; Walsh, S.V. submitted to the EMBL Data Library, February 1996 A;Reference number: Z21807 A;Accession: T38712	hange 09-Jul-2004	10  10  10  10  10  10  10  10  10  10	1475 QFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQR-GLFYSMAKDAGLV 1531	1415 LPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRT 1474	1355 GINIAKIGLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSA 1414	1295 FRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIID 1354	1235 SYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVE 1294	1176 HQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVISRHS-LSAGLVGLSV 1234	1116 AIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFI 1175        :           :  :	922 VLRNPLSYPDITPIGRIINRLAKDMEVVDLRLSSSFRFLVMALINMTVLIVSYTTPLF 979
D 4	S & S	Qу	Qy db	Qу	Qy Db	Qy db	Qy db	Qy db	D Qy	Db Qy	da Qy	gg Qy	Db Qy	gg Qy	Db Qy	Db	Db
1113 DMEDTFISENDIRVDTNHRIWFLYFSSNRWQAIRVEAIGALVVFSSAFFGYLSAVRGNPN	1109 LLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAF 1168	1049 HVDLLHSILRSPMSFFERTPSGNLVNRPSKELDTVDSMIPEVIKMFMGSLFNVIGACIVI   :: ::  :           ::      ::            ::            ::	990 LASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMAVSI-GGILASRCL	933 ELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFMCNHVSA-  :	878 AEENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSGDISRHHNSTA 932	819 NKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLAR-DGAFAEFLRTYASTEQEQD ::	759 TEIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDDPLSAVDAHVGKHIFENVIGPKGMLK   :    :     :	699 EGHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEFYYRSVIQACALLFDLEILFSGDR 	643 SITVRNATFTWARSDPPTLNGITPSIPEGALVAVVGQVGCGKSSLLSALLAEMDKV : :	583 FVSLALFNILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELBPDSIERRPVKDGGGTN	525 KDKVLAIRQ-EELKVLKKSAYLSAVGTFTWVCTPFLVALCTFAVYVTI-DENNILDAQTA  :  :    ::    ::     :     : : : :   472 LQKLLQLRNTRELRMLKKIGIVNTIGNFTWLFADILVSAATFGTFIVLYGKTRVLSVDIV	465 SVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAF	405 RKALVITNSARKSSTVGEIVNLMSVDAQRFMDLATYINMIWSAPLQVILALYLLMLNLGP 464   :  :::  :  :                :    ::	349 LIKFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICFVSGMRIKTAVIGAVY ::	289 SKVDANEEVEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFFKAIHDLMMFSGPQILKL 	229 VRGYRQPLEGSDLWSLNKEDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQPKES	153 TFFCSLVCLLABIYVPPANRVWYPDDAAELEETGLRESRFTYANIFSRISFGWLSPLM

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ABC transporter AtMRP2 [imported] - A:
N;Alternate names: multidrug-resistanc
C;Species: Arabidopsis thaliana (mouse
C;Date: 12-Feb-1999 #sequence_revision
C;Accession: T01369; D84759
C;Accession: T01369; D84759
R;Rounsley, S.D.; Lin, X.; Ketchum, K
submitted to the EMBL Data Library, M;
A;Description: Arabidopsis thaliana cl
A;Reference number: Z14179
A;Accession: T01369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Status: translated from GB/EMBL/DDBJ
A;Nolecule type: DNA
A;Rolecule type: DNA
A;Residues: 1-1623 <ROUD
A;Cross-references: UNIPROT:064590; UNIPARC:UPI000009F2D5; EMBL:AC003096; NID:93132469;
A;Cross-references: UNIPROT:064590; UNIPARC:UPI000009F2D5; EMBL:AC003096; NID:93132469;
A;Experimental source: cultivar Columbia
R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.;
R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, M.; VanAken, S.E.; Umayam, L.; Tallon, L.
M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L.
euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.M.; Venter, C.
                                                                                                                                                                                                                                                                                                                  A;Map position: 2
A;Introns: 110/3; 170/2; 183/3; 236/1; 274/2; 301/2; 309/3; 328/3; 350
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding
F;1259-1452/Domain: ATP-binding cassette homology <ABC>
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T01369
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A;Molecule type: DNA
A;Residues: 1-1623 <STO>
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Best Local S
Matches 561
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genetics:
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         131
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                                                                                                                                                                                                                                              561;
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       GVQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLFRDITFYVYFS----
                                                   HKVERFCLRSRLYNYFLALLAAYATAEPLFRL---IMGISVLDFDGPGLPPF------
                                                                                                                                              FIEWYCKPVPNGVWTKQVANAFGAYTPCATDSFVLGISQLVLLVLC----LYRIWLALKD
                                                                                                                                                                                        FYLWACFPF-YFLYLSRHDRGYIQMTPLNKTKTALG---FLLWIVCWADLFYSFW-----
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                                                                                               -----ERSRGIFLA------PVFLVSPTLLGITTL-----LATFLIQLERRK
                                                                                                                                                                                                                                      23.8%; Score 2384.5;
35.2%; Pred. No. 2.2e
:ive 274; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , K.A.; Crosb
, May 1998
a chromosome
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                                                                                                                                                                                                                                      34.5; DB 2;
2.2e-152;
ches 534;
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                                                                                                                                                                                                                                                                                     Length 1623;
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                                                                                                                                                                                                                                                                                                                                                          cassette
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ESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYFSIVANRWLAVRL 1203
                                                                                                                                                                                          ISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTV
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                                                                         DRTVAVFVNMFMGQVSQLLSTVVL1GIVSTLSLWAIMPLLVLFYGAYLYYQNTAREVKRM
                                                                                                                DSMIPEVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRL 1143
                                                                                                                                                                    FGQVLVTLTNSYWLIMSSLYAAKKLHDNMLHSILRAPMSFFHTNPLGRIINRFAKDLGDI
                                                                                                                                                                                                                                                            QDALGGAWVVMMLLLCYVLTEVFRVTSSTWLSEWTD----AGTPKSHGPLFYNLIYALLS
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R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.

Nature 408, 816-820, 2000

A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C. C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, J.A.; Liuros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.

Rizzo, M.; Rooney, T.; Kowley, D.; Sakano, H.

A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.

A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.

A;Accession: D86428
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Glutathione S-conjugate transporting ATPase (AtMRP1) - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress)

C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 09-Jul-2004

C;Accession: D86428
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A;Residues: 1-1622 <STO>
A;Cross-references: UNIPROT:Q9C8G9; UNIPARC:UPI000009CF47; GB:AE005172;
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C;Superfamily: hu
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Best Local
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                                                            184 IQLV------LSCFSDRSPLFSETIHD-----PNPCPESSASFLSRITFWW
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                                                                                                                                                                                                                                                                                                                                                                            a 23.5%; Score 2356.5; DB 2; Similarity 35.6%; Pred. No. 1.8e-150;
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                                                                                                                                                                                         LRSKWFSYFLALLAAYATABPLFRL---VMRISVLDLDGAGFPPYEAFMLVLE--AFAWG
                                                                                                                                                                                                                                                                                                                  WACFPF-YFLYLSRHDRGYIQMTPLNKTKTALG-----FLLWIVCWADLFYSFW
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                       VQVAFGTLLFVYFPNLDPYPGYTPVGTENSEDYEYEELPGGENICPERHANLFDSIFFSW
                                                                                                                                                                                                                                ERSR--GIFLA-----PVFLVSPTLLGITTL------LATFLIQLERRKGVQS
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                                                                                                                                                  SGIMLTF----
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  PQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVGIVGRTGAGKSSLTLGLFRINESA 1347
                                           STMGLLLSYALSITSSLTAVLRLASLAENSLNSVERVGNYIEIPSEAPLVIENNRPPPGW 1231
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229 ERHAŠIFŠRĪYFGWĪTPLMQLĞYRKFITEKDVWQLDKWDQTETLIKRFQRCWTEESRR 286 270 KQPVKVVYSSKDPAQPKESSKVDANEEVEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSF 329			52 FYFLYLSRHDRGYIQMTPLNKTKTALGFLLWIVCWADLFYSFWERSRGIFLAPV 105	2 ALRGFCSADGSDFLWDWNVTWNTSNPDFTKCFQNTVLVWVPCFY-LWACFF 5	28:	A;Cross-references: UNIPROT:Q9C8H0; UNIPARC:UPI00000482FF; GB:AE005172; NID:g11055818; FC;Genetics: C;Genetics: A;Map position: 1 C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding cassette homology	A;Accession: E86428 A;Status: preliminary A;Molecule type: DNA A;Residues: 1-1495 <sto></sto>		Nature 408, 816-820, 2000  A;Authore: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C. C.A; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.	E8642B A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.: Chung, M.K.; Conn, L.; Conway, A.B.; Conway Hudhes, B.; Huizar, L.	86428  **Robable ABC transporter [imported] - Arabidopsis thaliana  **Species: Arabidopsis thaliana (mouse-ear cress)  **Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text change 09-Jul-2004	1469MVQSTĠTANAEYLRSITLĖNKRTRĖ 1493	1912 1QKTIKEEFKSCIMBIIAHRINTIIDCDKVLVLDSGKVQEFSSPENLLSNGESSFSK 1468 1528 AGLVGGGGGGMLSRKGIIPEEYVLTRLAEDPAEPRYRTRE 1567	IQSTIRTOFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLFYSMAKD	1408 LKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDL 1467	1348 EGELILUGINIAKIGHDUKKKITILPODPYLESGSERMINDPESQYSDEEWWTSLEIAH 1407 	::  :      :     ::  : :
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36 LTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYS :	1221 SKHSLSAGLYGLSYSTS-LQVTTYLNMLVMMSSEMEINIYAVEKLKEYSETEKEAP 1275   :    :    :    :  :        :	61 GVSVIRAFEEGERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVI               : : :           : :	1101 VIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFNETLL 1160 ::	1041 GILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVDSMIPEVIKMFMGSLFN 1100 	986 HVSALASNYWLSLWTDDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMAVSIG 1040	927 HHNSTAELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKAI-GLFISFLSIFLFWCN 985 :  : :  : :   : :   : :   : : : : : : :	867 RTYASTEQEQDAEENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSGDISR 926 :	807 FENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAFAEFL 866 	747 LPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDDPLSAVDAHVGKHI 806   ::	688 LSALLAEMDKVE-GHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEPYYRSVIQACAL 746	629 SIERRPVKDGGGTNSITVRNATFTW-ARSDPPTLNGITFSIPEGALVAVVGQVGCGKSSL 687 	570 TIDENNILDAQTAFVSLALFNILRFPLNILPMVISSIVQASVSLKRL-RIFLSHEELEPD 628	510 NGIKVLKLYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVCTPFLVALCTFAVYV 569 :::     : :     : :       : :     -  -	427 RIIVSMILLYQQLGVASLFGSLILFLLIFLQTLIISKMRKLTKEGLQWTDKRVGITNEIL 486	367 RVGFRLRSTLVAAIFHKSLRLTHEARKNFASGKVTNMITTDANALQQISQQLHGLMSAFF 426 450 QVILALYLLMLNLGFSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLMNBIL 509	308 IFKIGNDLSQFVGPVILSHLLRSMQEGD-PAWVGYVYAFIIFVGVTLGVLCEAQYFQNVW 366 390 VSGMRIKTAVIGAVYRKALVITNSARKSSTVGEIVNLMSVDAQRFMDLATYINMIWSAPL 449	FFKAIHDLMMFSGPQILKLLIKEVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHICF

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hypothetical protein Y75B8A.26 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jul-2004
C;Accession: T27408
R;Barlow, K.
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A;Cross-references: UNIPROT:Q9XW61;
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;Introns: 63/3; 120/3; 222/3; 271/3; 372/3; 451/1; 636/1; 687/3; 778/3;
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                                                                                                                                                                                                                          LPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDDPLSAVDAHVGKHIFENVIG
                                                                                                                                                                                                                                                                                                                       AEMDKVEGHVAIKGSVAYVPQQAWIQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEI
                                                                                                                                                                                                                                                                                                                                                                                               PVKDGGGTNSITVRNATFTW-ARSDPPTLNGITFSIPEGALVAVVGQVGCGKSSLLSALL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NNILDAQTAFVSLALFNILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELEPDSIERR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KLYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVCTPFLVALCTFAVYV--TIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YLLWENLGPSVLAGVAVMVLMVPVNAVMAMKTKTYQVAHMKSKDNRIKLMNEILNGIKVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QTVLSNAILHKILRLSPSARSNRTAGEILNHAAVDIEIIVHSVPYLQNMWSVPFQVTLAM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KLYAWEESFEDQINRLRAKEVKMLRNVCILSRIVDVANAASPFLVAIGSFTCYVLWSPDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TMLAITLGWAAMAGVCIMILFIPLNLCTSRFIKLSQQKQMKIKDERTKLSNEMLNGIKVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATASVDVRTDSLIQRTIREEFKSCTMLVIAHRLNTIIDCDKILVLSSGQVLEYDSPQELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEEVWTSLELAHLKDFVSALPDXLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDE
                                                                                                                                                                                                   FQQGENTMVGENGITLSGGQKARISLARAVYQDKDIYLLDDPLSAVDAHVGRALFDKVIG
                                                                                                                                                                                                                                                                                DEMVLLDGRVKVGGSIAYVPQHSWIFNKTIKENILFGNELSNYFYDQVVGSCQLKTDFRH
                                                                                                                                                                                                                                                                                                                                                              EVALG---NAIVFKNASLNWKGPQNPPVLKDLSATIKPGQLIAIVGSVGGGKSSLLSAVL
                                                                                                                                                                                                                                                                                                                                                                                                                                            NG-LTPSVAFVALTIFNOLROPMRMVANLINTLVQARVSNKRLROFLNDEEME----RKT
  ELQKAEAKKEETWKLMEADKAQTGQVKLSVYWDYMKAIGLFISFLSIFLFMCNHVSALAS
                                         SDEDVADEEAESSEASVTPPVPVLENG----DNGAIEKSSQIDRTNSHFSEKSR-----
                                                                            EQEQDAEENGVTGVSGPGKEAKQMENGMLVTDSAGKQLQRQLSSSSSYSGDISRHHNSTA
                                                                                                                     PDGLLRSKTRVLVTHNLQYTKYVDTIYVIBDGQIVQHGSFEDIAYVDGPFGR-LWSECEN
                                                                                                                                                            PKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELLARDGAFAEFLRTYAST
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Pred. No. 1e-147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            UNIPARC: UPI000007AA2A; EMBL: AL033514; NID: e1343251;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             November 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches 381; Indels
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                                                                                                                                                                                                                                probable membrane protein YLL015w - yeast (Saccharomyces cerevisiae)
N.Alternate names: hypothetical protein A255; hypothetical protein L1313
C;Species: Saccharomyces cerevisiae
C;Jate: 10-Sep-1999 #sequence revision 10-Sep-1999 #text_change 09-Jul-2
C;Accession: S64757; S64763; PS0041; S69391; S70560
R;Miosga, T.; Zimmermann, F.K.
submitted to the Protein Sequence Database, May 1996
A;Reference number: S64743
A;Accession: S64757
A,Molecule type: DNA
A;Residues: 1-1559 <MIO-
A;Cross-references: UNIPROT:P14772; UNIPARC:UPI0000126A9C; EMBL:Z73120;
A;Experimental source: strain S288C
R;Goffeau, A.; Purnelle, B.
submitted to the Protein Sequence Database, May 1996
A;Deference number: S64761
              A;Residues: 1-1559 <GOF>
A;Cross-references: UNIPARC:UPI0000126A9C; EMBL:Z73120; NID:A;Cross-references: UNIPARC:UPI0000126A9C; EMBL:Z73120; NID:A;Coss-references: UNIPARC:UPI0000126A9C; EMBL:Z73120; NID:A;Coss-reference, E.; Damak, F.; Camonis, J.; Garreau, H.; Jacoene 77, 21-30, 1989
A;Title: The C-terminal part of a gene partially homologous A;Reference number: PS0041; MUID:89306677; PMID:2545538
A;Accession: PS0041
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                                                                                                                                                                                                 A; Reference number: S64761
A; Accession: S64763
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  A;Molecule type: DNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TPSNLLLNPDSLYS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EKEAPWQIQETAP-PSSWPQVGRVEFRNYCLRYREDLDFYLRHINVTINGGEKVGIVGRT 1329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STIAESIHGASSIRAFDKTERTTTALSTNVDKFAQCRYLSHMSNRWLATRLELLGNTCVL
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                                                                                                  Garreau, H.; Jacquet,
                                                                                                                                        NID:g1360184;
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                                                             to CDC25
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C;Reywords: ATP; nucleotide binding; P-loop; transmembrane protein
F;28-44/Domain: transmembrane #status predicted <TM1>
F;143-159/Domain: transmembrane #status predicted <TM2>
F;178-194/Domain: transmembrane #status predicted <TM3>
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F;13
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A; Residues: 1-1559 < PUR>
A; Residues: 1-1559 < PUR>
A; Cross-references: UNIPARC:UPI0000126A9C; EMBL:X97560; NID:g1297003; PIDN:CAA66162.1; F
R; Miosga, T.; Zimmermann, F.K.
Yeast 12, 693-708; 1996
A; Title: Sequence analysis of the CEN12 region of Saccharomyces cerevisiae on a 43.7 kb
e conductance regulator protein CFTR.
A; Reference number: S70557; MUID:96405918; PMID:8810043
A; Accession: S70560
A; Status: nucleic acid sequence not shown; translation not shown
A; Molecule type: DNA
A; Cross-references: UNIPARC:UPI0000126A9C; EMBL:X91488; NID:g1495203; PIDN:CAA62776.1;
A; Cross-references: UNIPARC:UPI0000126A9C; EMBL:X91488; NID:g1495203; September 1995
A; Cross-references: UNIPARC:UPI0000126A9C; EMBL:X91488; Data Library, September 1995
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A;Map position: 12L
C;Superfamily: human multidrug resistance protein cMOAT2; ATP-binding
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A;Description: The sequence of 32 kb on the left arm of yeast chromosome XII reveals mily and a new ABC transporter homologous to the human multidrug resistance protein.
A;Reference number: S69380
A;Accession: S69391
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Best Local S
Matches 574
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Residues: 1-255 <BOY>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NTSNPDFTKCFQNTVLVWVPCFYLW-ACFPFYFLYLSRHDRGYIQMTPLNKTKTALGFL-
SISKEFKANWELEKWINRN-----SIWRAIWKSFGRTISVAMLYETTSDLLSVVQPQF
                                                   KESSKVDANEEVEALIVKSPQKEWNPSLFKVLYKTFGPYFLMSFFFKAIHDLMMFSGPQI
                                                                                                                                                             IVRGYROPLEGSDLWSLNK--EDTSEQVVPVLVKNWKKECAKTRKQPVKVVYSSKDPAQP
                                                                                                                                                                                                                                                                    DLFRDITFYVYFSLLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWWITGL
                                                                                                                                                                                                                                                                                                                                                                                HLTNVCFQSTLIICELALVSQSSDRVYPFILK-KALYLNLLF-----NLGISLPTQYLAY 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NALNP----CFISVISAWQAVFFLLIGSYQLWKLYKNNKVPPRFKNFPTLPSKINSRHLT
                                                                                                                                                                                                                -LFNSVAIFIY-DLCIFEPI----NELSEYYKKNGWYP-----PVHVLSYITFIWMNKL
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                                                                                                                                                                                                                                                                                                                             KSTFSMGNQLFYYMFQILLQLFLILQRYYHGSSNERLTVISGQTAMILEVLL
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                                                                                                         NKKIKDPNQLPLPPVDLNIK--
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Pred. No. 2.6e-146;
12; Mismatches 541; Indels 227;
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                                                                                                                                                                VSYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRV
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                         EFKNYSTKYRENLDPVLNNINVKIEPCEKVGIVGRTGAGKSTLSLALFRILEPTEGKIII
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                IRSPMTFFETTPVGRIINRFSSDMDAVDSNLQYIFSFFFKSILTYLVTVILVGYNMPWFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TDDPIVNGTQEHTKVRLSVYGALGISQGIAVFGYSMAVSI---GGILASRCLHVDLLHSI 1056
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                                                                                                                                MSYSLEVTGSLTWIVRTTVTIETNIVSVERIVEYCELPPEAQSINPEKRPDENWPSKGGI
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Search completed: December 15, 2005, 15:37:03 Job time : 59.2211 secs	1543 DKTSIFYSLCEKGG 1556	1517 QR-GLFYSMAKDAG 1529 	1483 TASVDMETDKIIQDTIRREFKDRTILTIAHRIDTVLDSDKIIVLDQGSVREFDSPSKLLS 1542	1457 TAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQ 1516	1423 KMLHSKPRGDDSNEEDGNVNDILDVKINENGSNLSVGQRQLLCLARALLNRSKILVLDEA 1482	1414 AL	1363 DGIDISDIGLFDLRSHLAIIPQDAQAFEGTVKTNLDPFNRYSEDELKRAVEQAHLKPHLE 1422	1354 DGINIAKIGLHDLRFKITIIPQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVS 1413

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Result
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Maximum Match 100%
Listing first 45 summaries
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Kast C., Gros P.;
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DOI=10.1002/1098-1004(2001)17:1<74::AID-HUMU14>3.0.CO;2-F;
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PubMed=11721885; DOI=10.1007/s100380170017;
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-!- SIMILARITY: Contains 2 ABC transmembrane type-1 domains.
-!- SIMILARITY: Contains 2 ABC transporter domains.
-!- DATABASE: NAME-Atlas Genet. Cytogenet. Oncol. Haematol.;
--- WWW-"http://www.infobiogen.fr/services/chromcancer/Genes/MRPID106.html"
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VARIANTS SER-43; ILE-73; GLN-723 AND (
VARIANTS SER-43; ILE-73; GLN-723 AND (
MEDLINE=21163848; PubMed=11266082; 
DOI=10.1097/00008571-200103000-00008; 
Ito S., Ieiri I., Tanabe M., Suzuki A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the
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between the Swiss Institute of Bioinformatics and the EMBL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             European
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name=Delexon-18;
IsoId=P33527-3; Sequence=VSP_000038;
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Comment=Additional
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Name=Delexon-17-18-30;
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IsoId=P33527-4;
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Y: Lung, testis and peripheral blood
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genes, MDR1, MRP1 and
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                                           LVTDSAGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAKKEETWKLMEADKAQTGQVKL
                                                                                MSGGKISEMGSYQELLARDGAFAEFLRTYASTEQEQDAEENGVTGVSGPGKEAKQMENGM
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AAB83983.1;
                               LQRQLSSSSYSGDISRHHNSTABLQKABAKKEETWKLMBADKAQTGQVKL
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resistance protein gene (MRP Genomics 45:368-378(1997).
-i- SIMILARITY: Belongs to the EMBL; AF022853; AAB83979.1; EMBL; AF022827; AAB83979.1; EMBL; AF022828; AAB83979.1; EMBL; AF022831; AAB83979.1; EMBL; AF022831; AAB83979.1; EMBL; AF022831; AAB83979.1; EMBL; AF022837; AAB83979.1; EMBL; AF022837; AAB83979.1; EMBL; AF022837; AAB83979.1; EMBL; AF022837; AAB83979.1; EMBL; AF022837; AAB83979.1; EMBL; AF022849; AAB83979.1; EMBL; AF022849; AAB83979.1;
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99 HUMAN
Q9UQ99 HUMAN PRELIMINARY; PRT; 1515 AA.
Q9UQ99;
Q9UQ99;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-MAY-2004 (TrEMBLrel. 26, Last annotation update)
Multidrug resistance protein (Fragment).
                                                                                                                                       MEDLINE=98008927; PubMed=9344662; DOI=10.1006/geno.1997.4950; Grant C.E., Kurz E.U., Cole S.P.C., Deeley R.G.; "Analysis of the intron-exon organization of the human multic resistance protein gene (MRP) and alternative splicing of its
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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Euarchontoglires; Primates; Catarrhini; Homin
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Best Local S
Matches 1493
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Pfam; PF00005; ABC_tran; 2.

ProDom, pD000006; ABC_transporter; 2.

SMART; SM00382; AAA; 2.

TIGRPAMG; TIGR09557; MRP assoc_pro; 1.

PROSITE; PS50929; ABC_TRANSPORTER_1; 2.

PROSITE; PS5093; ABC_TRANSPORTER_2; 2.

PROSITE; PS50893; ABC_TRANSPORTER_2; 2.

PROSITE; PS50893; ABC_TRANSPORTER_2; 2.

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Perry W.L. III, Godinot N.;

Perry W.L. III, Godinot N.;

Perry W.L. III, Godinot N.;

Submitted (AUG-2002) to the EMBL/GenBank/DDBJ

-1- SIMILARITY: Belongs to the ABC transporte:

EMBL; AY146673; ANN65349.1; -; mRNA.

HSSP; P08716; 1MT0.

GO; GO:0016021; C::integral to membrane; IEA.

GO; GO:0005524; F:ATP binding; IEA.

GO; GO:0005524; F:ATPase activity; coupled to

GO; GO:00042626; F:ATPase activity.

GO; GO:0001688; F:ATPase activity.

GO; GO:000166; F:nucleotide binding; IEA.

GO; GO:000166; F:nucleotide binding; IEA.

GO; GO:000166; F:TATPase activity.

GO:0000166; F:TATPase activity.

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MEDLINE=22544876; PubMed=12657726;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
Cercopithecidae; Cercopithecinae; Macaca.
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01-JUN-2003 (TrEMBLrel. 24, I
01-WAR-2004 (TrEMBLrel. 26, I
Multidrug resistance protein
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In 1B.
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Pred. No. 0;
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2864S0_MACFA PRELIMINARY; PRT; 1531 AA.

2064S0;

C 0864S0;

OBOURD 101-JUN-2003 (TrEMBLrel. 24, Created)

O1-JUN-2003 (TrEMBLrel. 24, Last sequence update)

O1-JUN-2003 (TrEMBLrel. 26, Last annotation update)

O1-JUN-2003 (TrEMBLrel. 26, Last annotation update)

Manne-MRP1;

Manne-MRP1;

Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).

Enkaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

C Manmalia; Eutheria; Euarchontogliree; Primates; Catarrhini;

C Macropithecidae; Cercopithecinae; Macaca.

MCBI_TaxID=9541;

MCBI_TaxID=9541;
MEDLINE=22544876; PubMed=12657726; Godinot N., Iversen P.W., Tabas L., Xia X., Dantzig A.H., Perry W.L.;

"Cloning and functional characterization of associated protein (MRPL/ABCC1) from the cy Mol. Cancer Ther. 2:307-316(2003).

[2]

NUCLECTIDE SEQUENCE.
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PS50893; ABC_TRANSPORTER_2; 2.
PS50107; PROTEIN KINASE_ATP; UNKNOWN_1.
PS00107; PROTEIN KINASE_ATP; UNKNOWN_1.
1531 AA; 171701 MW; 168712B8CC2D2B89
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Euarchontoglires; Primates; Catarrhini; Hominidae;
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GO; GO:0001687; F:ATPase activity; Coupled GO; GO:006810; P:transportt; IEA.

GO; GO:0006810; P:transportt; IEA.

InterPro; IPR003529; MRP_assoc.

InterPro; IPR003529; MRP_assoc.

InterPro; IPR003529; MRP_assoc.

InterPro; IPR00359; AAC Transp. 1:

ProDom; PD000006; ABC Transporter; 1.

ProDom; PD000006; ABC Transporter; 1.
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SMART; SM00382; AAA; 2.

TIGRRAMS; TIGR00957; MRP assoc pro; 1.

PROSITE; PS50929; ABC TMAIN; 2.

PROSITE; PS00211; ABC TRANSPORTER 1; UNIPROSITE; PS00117; ABC TRANSPORTER 2; 2.

PROSITE; PS00107; PROTEIN KINASE ATP; UNATP-binding; Nucleotide-binding.

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SEQUENCE 1459 AA; 163831 MW; 6A016A5
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Pred. No. 0;
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EEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTKILVLDEA
                                                     TLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDFVLFSGSLRMNLDFFSQYSD
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EMBL; AF022824; AAB83981.1; JOINED; Genomic_DN
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EMBL; AF022849; AAB83981.1; JOINED; Genomic_DN
EMBL; AF022849; AAB83981.1; JOINED; Genomic_DN
EMBL; AF022849; AAB83981.1; JOINED; Genomic_DN
EMBL; AF022849; AAB83981.1; JOINED; Genomic_DN
EMBL; AF022849; AAB83981.1; JOINED; Genomic_DN
EMBL; AF022849; AAB83981.1; JOINED; Genomic_DN
EMBL; AF022849; AAB83981.1; JOINED; Genomic_DN
EMBL; AF022849; AAB83981.1; JOINED; Genomic_DN
EMBL; AF022849; AAB83981.1; JOINED; Genomic_DN
EMBL; AF022849; AAB83981.1; J
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Q9UQAO;
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Multidrug resistance protein (Fragment)
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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EMBL; AF022853; AAB83981.1; -; Genomic_DNA.
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R InterPro; IPR000719; Prot_kinase.
R Pfam; pF00664; ABC membrane; 2.
R Pfam; pF00006; ABC tran; 2.
R Probom; PD000006; ABC transporter; 2.
R MART; SM00382; AAA; 2.
R TIGRPAMs; TIGR00957; MRP assoc_pro; 1.
R PROSITE; PS00929; ABC TMAF; 2.
R PROSITE; PS00211; ABC TRANSPORTER 1; 2.
PROSITE; PS00211; ABC TRANSPORTER 2; 2.
R PROSITE; PS00107; PROTEIN KINASE ATP; UNKNOWN 1.
R PROSITE; PS010107; PROTEIN KINASE ATP; UNKNOWN 1.
R ATP-binding; Nucleotide-binding.
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AVDAHVGKHIFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIIVMSGGKISEMGSYQELL
                                                                                           LATYINNIWSAPLQVILALYLLMLNIGPSVLAGVAVVAVLAVPVNAVMAMKTKTYQVAHMK
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NÜCLEOTIDE SEQUENCE.
MEDLINB=22404678; PubMed=12516967;
MA L., Pratt S.E., Cao J., Dantzig A.H.,
"Identification and characterization of (
resistance-associated protein.";
Mol. Cancer Ther. 1:1335-1342(2002).
[2]
                                                                                                           QGURO5 CANFA PRELIMINARY; PRT; 1531 AA. Q6URO5; Q6URO5; C2-JUL-2004 (TrEMBLrel. 27, Created) 05-JUL-2004 (TrEMBLrel. 27, Last sequence update) 05-JUL-2004 (TrEMBLrel. 27, Last annotation updat wultidrug resistance-associated protein 1. Name=MRP1;
                                                                                          Canis familiaris
Eukaryota; Metazo
                                                           NCBI_TaxID=9615; [1]
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Eutheria;
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oa; Chordata; Craniata;
ia; Laurasiatheria; Carr
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                                                                                 nta; Vertebrata; Euteleostomi;
Carnivora; Fissipedia; Canida
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Canidae;

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RA Ma L., Pratt S.E., Cao J., Dantzig A.H., Moore R.E., Slapak C.A.;

R. Submitted (AUG-2003) to the EMBL/GenBank/DDBJ databases.

CC -1 SIMILARTY: Belongs to the ABC transporter family.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

REMBL; AY363728; AAQ23148.1; -; mRNA.

RO; GO:0001687; F:ATFDASE activity; IEA.

RO; GO:0001687; F:ATFDASE activity; IEA.

RO; GO:0001687; F:ATFDASE activity; IEA.

RO; GO:0001687; F:ATFDASE activity; IEA.

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RO; GO:0001687; F:ATFDASE activity; IEA.

RO; GO:0001680; F:TATABSE activity; IEA.

RO; GO:00016810; F:TATABSE activity; IEA.

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RO; GO:00016810; F:TATABSE activity; IEA.

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RO; GO:00016810; F:TATABSE ACTIVITY; IEA.

RO; GO:00016810; F:TATABSPORTER 7; 2.

RO; GO:00016810; F:TATABSPORTER 7; 2.

RO; GO:00016810; F:TATABSPORTER 7; 2.

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RO; GO:00016810; F:TATABSPORTER 7; 2.

RO; GO:00016810; ABC_TRANSPORTER 7; 2.

RO; GO:00016810; ABC_TRANSPORTER 7; 2.

RO; GO:00016810; ABC_TRANSPORTER 7; 2.

RO; GO:00016810; ABC_TRANSPORTER 7; 2.

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RO; GO:00016810; ABC_TRANSPORTER 7; AGC:0001681; 
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                                        PRELIMINARY;
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Last sequence upo
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Query Match
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Matches 1428
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-!- SIMILARITY: Belongs to the ABC transporter fa
EMBL; AB209120; BAD92357.1; -; mRNA.
R Ensembl; ENGG00000103222; Homo sapiens.
GC; GO:0016021; C:integral to membrane; IEA.
GC; GO:0005524; F:ATP binding; IEA.
GC; GO:0005524; F:ATP binding; IEA.
GC; GO:0006807; F:ATPase activity; IEA.
GC; GO:0006801; F:ransport; IEA.
GC; GO:0006801; F:ransport; IEA.
GC; GO:0006801; F:ransport; IEA.
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Totoki Y., Toyoda
Ohara O., Nagase '
"None Title.";
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Eukaryota; Metazoa; C
Mammalia; Eutheria; E
Homo.
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cal Similarity 99.2%;
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Nagase T., Kikuno F
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Chordata, Craniata, Vertebrata, Euteleostomi,
Euarchontoglires, Primates, Catarrhini, Hominidae,
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VGEIVNLMSVDAQREMDLATYINMIWSAPLQVILALYLLWLNL
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RN NULLEOTIDE SEQUENCE.

RY NUCLEOTIDE SEQUENCE.

RX MEDLINE=22062955; PubMed=12067707; DOI=10.1016/S0014-5793(02)02816-8;

RA Taguchi Y., Saeki K., Komano T.;

RT "Functional analysis of MRP1 cloned from bovine.";

RES Lett. 521:211-213(2002).

CC -!- SIMILARITY: Belongs to the ABC transporter family.

DR EMBL; ABB02124; BBC15550.1; -; mRNA.

DR GO; GO:0016021; C:integral to membrane; IEA.

DR GO; GO:0016887; F:ATPD binding; IEA.

DR GO; GO:0016887; F:ATPD binding; IEA.

DR GO; GO:0016887; F:ATPD binding; IEA.

DR GO; GO:0005524; F:ATPD binding; IEA.

DR GO; GO:0006610; F:nucleotide binding; IEA.

DR GO; GO:0006610; P:nucleotide binding; IEA.

DR GO; GO:0006610; P:nucleotide binding; IEA.

DR InterPro; IPR001527; ABC_membrane 1.

InterPro; IPR003593; AAA_ATPASE.

DR InterPro; IPR003439; ABC_Transport; IEA.

DR InterPro; IPR003439; ABC_Transporter; 2.

DR Pfam; PF00064; ABC_membrane; 2.

DR Pfam; PF00064; ABC_membrane; 2.

DR Pfam; PF000095; ABC_tran; 2.

DR Pfam; PF000095; ABC_tran; 2.

DR Pfam; PF000095; ABC_Transporter; 2.

SMART; SM00382; AAA; 2.

DR PROSITE; PS00201; ABC_TRANSPORTER 1; 2.

DR PROSITE; PS00201; ABC_TRANSPORTER 1; 2.

DR PROSITE; PS00201; ABC_TRANSPORTER 2; 2.

KW ATP-binding; Nucleotide-binding; Repeat.

SQ SEQUENCE 1530 AA; 171666 MW; AAE4F92ED7832703 CRC64;
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01-MAR-2003
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Multidrug re
Name=MRP1;
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LVLIQLVLSCFSDRSPLFSETINDPNPCPESSASFLSRITFWWITGMMVQGYRQPLESTD
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(TrEMBLrel. 25, Last annotation
esistance protein 1.
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DKGEIQEYGAPSDLLQQRGLFYSMAKDAGLV
                KRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIRQSDLKVDENQKAYYPSIVANRWLA
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AT "Analysis of the intron-exon organization of the human mult."
Tesistance protein gene (MRP) and alternative splicing of it
L-I-SIMILARITY: Belongs to the ABC transporter family.
EMBL; AF022823; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022825; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022827; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022828; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022824; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022824; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
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BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022829; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022833; AAB83982.1; JOINED; Genomic_DNA.
BREMEL; AF022833; AAB
HSSP; P08716; IMTO.

Ensembl; ENSGO000101222; Homo sapiens.
GO; GO:0016021; C:integral to membrane; NAS.
GO; GO:0016021; F:homoaconitate hydratase act
GO; GO:0004409; F:homoaconitate hydratase act
GO; GO:0006810; P:transport; NAS.
InterPro; IPR001593; AAA AmTbase.
InterPro; IPR001140; ABC_TM_transpt.
InterPro; IPR001140; ABC_TM_transpt.
InterPro; IPR003149; ABC_transp_like.
InterPro; IPR003592; ARP_assoc.
InterPro; IPR005292; MRP_assoc.
InterPro; IPR000719; Prot kinase.
Pfam; PF000064; ABC_membrane; 2.
Pfam; PF00005; ABC_tran; 1.
ProDom; PD000005; ABC_tran; 1.
SMART; SM00382; AAA; 7.
INGRFAMs; TIGR00957; MRP_assoc_pro; 1.
PROSITE; PS50093; ABC_TRANSPORTER_1; UNKNOWN
PROSITE; PS500211; ABC_TRANSPORTER_2; 2.
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QOUQ98;
QOUQ98;
QOI-MAY-2000 (TrEMBLrel. 13, Cro
QOI-MAY-2000 (TrEMBLrel. 26, La;
Multidrug resistance protein ()
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Euarchonto
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ATP-binding; Nucleotide-binding
NON TER
SEQÜENCE 1400 AA; 157211 MW;
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Pred. No. 0;
0; Mismatches
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MRP1_MOUSE
 STRAIN=C57BL/6J; TISSUE=Testis;
MEDLINE=22354683; PubMed=12466851; DOI=10.1038/nature01266;
MEDLINE=22354683; PubMed=12466851; DOI=10.1038/nature01266;
Okazaki Y., Furuno M., Kasukawa T., Adachi J., Bono H., Kondo S.,
Nikaido I., Osato N., Saito R., Suzuki H., Yamanaka I., Kiyosawa H.
Yagi K., Tomaru Y., Hasegawa Y., Nogami A., Schonbach C., Gojobori
Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                MRP1 MOUSE STANDARD; PRT; 1528 AA. 035379; 25-OCT-2004 (Rel. 45, Created) 25-OCT-2004 (Rel. 45, Last sequence update) 13-SEP-2005 (Rel. 48, Last annotation update) Multidrug resistance-associated protein 1 (ATP-binding resistance-associated protein 1 (ATP-binding resistance-associated protein 1)
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[2]
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Deeley R.G.;
                                                                                                                                                                                                                                        MEDLINE=96251691;
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Mammalia; Eutheria; Euarchontoglires; Glires;
Muroidea; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                 Name=Abcc1; Synonyms=Abcc1a, Abcc1b, Mdrap, Mrp;
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                                                                                                                                                 drug resistance protein, an Pharmacol. 49:962-971(1996)
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lires; Rodentia; Sciurogna
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RA Blake J.A., Bradt D., Brusic V., Chothia C., Corbani L.E., Cousins S.,
Ra Blake J.A., Bradt D., Brusic V., Chothia C., Corbani L.E., Cousins S.,
Ra Gasterland T., Gariboldi M., Gissi C., Godzik A., Gough J.,
RA Grimmond S., Gustincich S., Hirokawa N., Jackson I.J., Jarris E.D.,
RA Kanai A., Kawaji H., Kawasawa Y., Kedzierski R.M., King B.L.,
RA Konagaya A., Kurochkin I.V., Lee Y., Lenhard B., Lyons P.A.,
RA Maglott D.R., Maltais L., Marchionni L., McKenzie L., Miki H.,
RA Magashima T., Numata K., Okido T., Pavan W.J., Pertea G., Pesole G.,
RA Petrovsky N., Pillai R., Pontius J.U., Qi D., Ramachandran S.,
RA Ravasi T., Reed J.C., Reed D.J., Reid J., Ring B.Z., Ringwald M.,
RA Sultana R., Takenaka Y., Taylor M.S., Teasdale R.D., Tomita M.,
RA Vian Z., Zavolan M., Zhu Y., Zimmer A., Carninci P., Hayatsu N.,
RA Wilming L.G., Wynshaw-Boris A., Yanagisawa M., Yang I., Hayatsu N.,
RA Wilmicki T., Waki K., Kawai J., Aizawa K., Arakawa T., Fukuda S.,
RA Hirozane-Kishikawa T., Konno H., Nakamura M., Sakazume N., Sato K.,
RA Shiraki T., Waki K., Kawai J., Aizawa K., Arakawa T., Fukuda S.,
RA Miyazaki A., Sakai K., Sasaki D., Shibata K., Shinagawa A.,
RA Miyazaki A., Sakai K., Sasaki D., Shibata K., Shinagawa A.,
RA Airney R., Hayashizaki Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Birney E., Hayashizaki Y.;
"Analysis of the mouse transcriptome based on 60,770 full-length cDNAs.";
Nature 420:563-573(2002).
                                                                                                                                                                                                                                                                                                                   FUNCTION: May participate directly in the active tr
drugs into subcellular organelles or influence drug
indirectly (By similarity).
SUBCELLULAR LOCATION: Integral membrane protein (By
SIMILARITY: Belongs to the ABC transporter family.
SIMILARITY: Contains 2 ABC transmembrane type-1 dom
SIMILARITY: Contains 2 ABC transporter domains.
                                                                                                              s Swiss-Prot entry is copyright. It is produced through a cween the Swiss Institute of Bioinformatics and the EMBL European Bioinformatics Institute. There are no restrict as long as its content is in no way modified and this state
mRNA.
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InterPro; IPR011527; ABC membrane 1.
InterPro; IPR001140; ABC\_TM transpt.
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InterPro; IPR003529; MRP assoc.
Pfam; PF00664; ABC\_membrane; 2.
Pfam; PF00664; ABC\_tran; 2. ProDom; PD000006; ABC\_transporter; 2.
SMART; SM0382; AAA; 2.
TIGREAMS; TIGR00957; MRP\_assoc\_pro; 1
PROSITE; PS50929; ABC\_TMIF; 2.
PROSITE; PS00211; ABC\_TRANSPORTER\_1;
PROSITE; PS50893; ABC\_TRANSPORTER\_2; EMBL; AF022908; AAB80938.1; -; EMBL; AK029876; BAC26654.1; -; HSSP; P08716; 1MT0. ENSMUSG00000023088; Mus musculus. 1 34 755 755 755 755 101 1122 1134 1194 318 ycoprotein; FABC 33 54 74 100 121 133 154 172 337 338 Nucleotide-binding; Cytoplasmic (By sin 2 (By similarity).

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R Pfam; PF00005; ABC transporter; 2.

R PFODOm; PD000006; ABC transporter; 2.

R PFODOM; PD000006; ABC transporter; 2.

R PFOSITE; PS0023; AADC TMIF; 2.

R PROSITE; PS0021; ABC TRANSPORTER 1; 2.

R PROSITE; PS0089; ABC TRANSPORTER 2; 2.

R PROSITE; PS0089; ABC TRANSPORTER 3; UNKNOWN 1.

R PROSITE; PS00063; ALDOKETO REDUCTASE 3; UNKNOWN 1.

W ATP-binding; Nucleotide-binding; Repeat.

W SEQUENCE 1532 AA; 171558 MW; C18F3554DD85732A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ensemb; ENSEMDGO0000032748; Rattus norvegicus.

RGD; 3112; Abcc1.

GGO; GG:0016021; C:integral to membrane; IEA.

GGO; GG:0005524; F:ATP binding; IEA.

GGO; GG:0005524; F:ATPase activity; IEA.

GGO; GG:0016887; F:ATPase activity, coupled to trar

GGO; GG:0006166; F:ATPase activity, coupled to trar

GGO; GG:0006166; F:nucleotide binding; IEA.

GGO; GG:0006166; P:transport; IEA.

GGO; GG:0006810; P:transport; IEA.

GGO; GG:0006810; P:transport; IEA.

InterPro; IPR001593; AAA_ATPase.

InterPro; IPR001140; ABC_Tm_transpt.

InterPro; IPR001393; ABC_transpt like.

InterPro; IPR001395; Aldo/ket_red.

InterPro; IPR001395; Aldo/ket_red.

InterPro; IPR001395; Aldo/ket_red.
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09 RAT
QBCG09 RAT
QBCG09;
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NCBI TaxID=10116;
[1]
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Multidrug resistence-associated protein 1.
Name=Abccl; Synonyms=Mrpl;
Rattus norvegicus (Rat).
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DRGYIQMTPLNKTKTALGFLLMIVCWADLFYSFWERSRGIFLAPVFLVSPTLLGITTLLA
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VLDKGEIRECGAPSELLQQRGVFYSMAKDAGLV
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3%; Pred. No. 0;
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                                                                              ELDTVDSMIPBVIKMFMGSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSR 1138
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Best Local Simi
Matches 1333;
                                                                                                                                                                                                                                                                                                                                                                                  C'STRAIN-Spraque-Dawley; TISSUE-Spleen;
C'STRAIN-Spraque-Dawley; TISSUE-Spleen;
A Takayanagi S., Ishikawa T.;
A Submitted (NOV-2002) to the EMBL/GenBank/DDBJ databases.
C'-!-SIMILARITY: Belongs to the ABC transporter family.
EMBL; AY174892; AAO44983.1; -; mRNA.
REMBL; AY174892; AAO44983.1; -; mRNA.
RESP; P08716; IMTO.
RR HSSP; P08716; IMTO.
RR GG; GO:0016021; C:integral to membrane; IEA.
RGO; GO:0016021; C:integral to membrane; IEA.
RGO; GO:0016021; C:integral to membrane; IEA.
RGO; GO:0016021; F:ATPase activity; IEA.
RGO; GO:001686; F:ATPase activity; Coupled to transmembrane
GG; GO:0042626; F:ATPase activity; Coupled to transmembrane
RGO; GO:0006810; F:transport; IEA.
RGO; GO:0006810; F:nuclectide binding; IEA.
RGO; GO:0006810; F:transport; IEA.
RGO; GO:0006810; F:Transport; IEA.
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01-JUN-2003
01-JUN-2003
01-MAR-2004
ATP-binding c
Name=Abcc1;
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R Pfam; PF00005; ABC_transporter; 2.

R Pfam; PF00006; ABC_transporter; 2.

R ProDom; PD00006; ABC_transporter; 2.

R SMART; SM00382; AAA; 2.

R TICRFAMS; TIGR00957; MRP assoc_pro; 1.

R PROSITE; PS00211; ABC_TRANSPORTER 1; 2.

R PROSITE; PS00211; ABC_TRANSPORTER 2; 2.

R PROSITE; PS0093; ABC_TRANSPORTER 2; 2.

R PROSITE; PS00063; ALDOKETO REDUCTAES 3; UNKNOWN_1.

R PROSITE; PS00063; ALDOKETO REDUCTAES 3; UNKNOWN_1.

SEQUENCE 1523 AA; 170505 MW; E40337051A1CB9C6 CRC64;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
Muridae; Murinae; Rattus.
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9 Cassette protein (
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A Caldwell R.B., Kierzek A.M., Arakawa H., Bezzubov Y., Zai A. Caldwell R.B., Kierzek A.M., Arakawa H., Bezzubov Y., Zai A. Caldwell R.B., Kierzek A.M., Arakawa H., Bezzubov Y., Zai A. Caldwell R.B., Kieter S., Blagodatski A., Kostovska D., Kote A. Fiedler P., Kutter S., Blagodatski A., Kostovska D., Kote A. Fiedler P., Hayashizaki Y., Buerstedde J.M.; T. Fielder P., Hayashizaki Y., Buerstedde J.M.; T. Fielder P., Hayashizaki Y., Buerstedde J.M.; T. Fielder P., Hayashizaki Y., Buerstedde J.M.; T. Fielder P., Hayashizaki Y., Buerstedde J.M.; T. Fielder P., Hayashizaki Y., Buerstedde J.M.; T. Fielder P., Hayashizaki Y., Buerstedde J.M.; T. Fielder P., Hayashizaki Y., Buerstedde J.M.; T. Fielder P., Hayashizaki Y., Buerstedde J.M., Go; Go:0016021; F. Farrp binding; IEA.

GO; GO:0016027; F. Farrp binding; IEA.

GO; GO:0001616; F. Hayashizaki Y., Coupled to transmembra GO; GO:00016610; P. transport IEA.

R. GO; GO:000610; P. transport IEA.

R. GO; GO:000610; P. transport IEA.

R. GO; GO:000610; P. transport L. Transpt.

R. InterPro; IPR001140; ABC_Tmembrane 1.

R. InterPro; IPR00313; ABC_Transporter; 2.

R. InterPro; IPR00319; ProE kinase.

DR InterPro; IPR000529; MRP_assoc_pro; 1.

P. Fam; PF00005; ABC_Tran; 2.

DR Pfam; PF00005; ABC_TRANSPORTER 1; 2.

DR PFAm; PS0021; ABC_TRANSPORTER 1; 2.

DR PROSITE; PS0021; ABC_TRANSPORTER 1; 2.

DR PROSITE; PS0021; ABC_TRANSPORTER 1; 2.

DR PROSITE; PS0021; ABC_TRANSPORTER 1; 2.

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SEQUENCE 1525 AA; 170972 MW; 38724B6711B878FD CRC64;
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                                                          VENGVLVNDATGKLMHRQLSNSSTYSRETGKSQHQSSTAELQKPLAEK-NSWKLTEADTA
                                                                                                                            DPPTLNGITFSIPEGALVAVVGQVGCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQAW
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                                                                              MENGMLVTDSAGKQLQRQLSSSSSSSSSSTGDI--SRHHNSTAELQKAEAKKEETWKLMEADKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LLLIQLVLSCFSDRSPLFSETIHDPNPCPESSASFLSRITFWMITGLIVRGYRQPLEGSD
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                                                                                                                                                                                                                                                                                    IQNDSLRENILFGCQLEEPYYRSVIQACALLPDLEILFSGDRTEIGEKGVNLSGGQKQRV
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·	1014	VRLSVYGALGISQGIAVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLV 1073	
	1008	VRLGVYGALGISQGIAVFGYSMAVSIGGIFASRHLHLDLLHNVLRSPMSFFERTPSGNLV 1067	
	1074	NRESKELDTVDSMIPEVIKMEMGSLENVIGACIVILLATPIAAIIIPPLGLIYFFVQRFY 1133	
	1068	SRFSKEIDTIDSTIPPIIKMFMGSTFNVIGACIIILLATPIAAVVIPPLGLVYLLVQRFY 1127	
`	1134	VASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYYDSI 1193	
	1128	VATSRQLKRLESVSRSPVYSHFNETLLGVSVIRAFBEQKRFIKQNDMKVDENQKAYYDSI 1187	
•	1194	VANRWIAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLVRMSSE 1253	
•	1188	VANRWLAVRLEFVGNCIVLFAALFAVIARNKLSPGLIGLSVSYSLQITAYLNWLVRWTSD 1247	
•	1254	METNIVAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHI 1313	
	1248	ETNIVAVERVKEYAEMEKEAEWSIEETAPASTWPQEGKVEFRGFGLRYREDLDLVLKNI 1307	
Ţ	1314	NVTINGGEKVGIVGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITII 1373	
•	1308	NITINGGEKVGIVGRTGAGKSSLTLGLFRINEAAEGEIIIDGINIAKIGLHDLRFKITII 1367	
·	1374	PQDPVLFSGSLRMNLDPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVG 1433	
	1368	PQDPILFSGSLRMNLDPFDQHSDEDIWRSLELAHLKNFVSSLPDKLNHECSEGGENLSVG 1427	
•	1434	QRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDCTVLTIAHRLNTIMD 1493	
_	1428	QRQLVCLARALLRKSKILVLDEATAAVDLETDNLIQSTIKSQFEECTVLTIAHRLNTIMD 1487	
Ì	1494	YTRVIVLDKGEIQEYGAPSDLLQQRGLFYSMAKDAGL 1530	
Ī	1488	YTRVLVLDRGEVVECDSPDNLLQAKGLFYSMAKDSGL 1524	

Search completed: December 15, 2005, 15:33:58 Job time: 260.777 secs